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UNDERGRADUATE TRAINING AND REQUIREMENTS FOR LICENSE TO PRACTISE

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THIS is an enormous country, and when we add to its vastness the realization of its rapidly increasing population, embracing, as it does, people of the most diverse nationalities, we find ourselves face to face with problems which will tax all the wisdom that the country can summon to its aid. It is a problem not for the partizan, but for the patriot; and we therefore as patriots have our part to play in the great drama. No people have ever been endowed with a vaster heritage. By natural law it follows that our responsibilities are correspondingly great, because "to whom much is given of him also shall much be required" has its application to the nation as well as to the individual. Are we as Canadians going to be equal to these responsibilities? Although the task before us will tax our resources, moral as well as material, we look forward with confidence to the result. In the national development of the country each has his place and his part to play. As a guild we have our share in these large responsibilities. We are charged with the duty, on the one hand, of promoting the physical well-being of the nation, and, on the other, of seeing that the ill shall be well treated in order to restore them to health, and, when that is not possible, to improve their condition and ameliorate their suffering. If we, as a profession, are to bear our share in the development of this vast country, with such a rapidly growing population, our energies must be united. To that end there must be a unif-

Extract from an address delivered before the Alberta Medical Association, August, 1911.

cation of the profession from the Atlantic to the Pacific. We must be one in effort as well as one in aim. If we are to attain the ideals which we should and no doubt will set before us, there must be complete understanding and fullest confidence between the profession in the West and that in the East. We will have to be animated by the same aspirations and guided by the same methods.

The first step to that end is the adoption of a common standard of qualification for admission to our ranks, as we have now a common standard of ethics for all after admission. Recent Dominion legislation is a step in the direction of attaining that end, but it is an examination standard, and I hope we may ere long go further than a common examination standard, as it is not reliable. Examinations, as ordinarily conducted, are quite inadequate as tests of knowledge and fitness for any position to which applicants may aspire. It is of frequent occurrence in examination everywhere that good men have failed and poor ones have passed with good standing. Various causes contribute to such results, the physical state of the applicant as well as of the examiner; the injudicious character of many examinations; lapse of memory and appreciation, which often occur to even the best man; the chance that brings to the weak man some of the few things he happens to know. There are few things more difficult than to find out exactly what any one knows. In consideration of these facts it is necessary to adopt some other than the examination standard.

The only efficient plan, at least so far as medicine is concerned, is to go behind the examinations and see that the education and practical training of the student are of such a character as to insure thorough preparation in each and every year of the undergraduate course. To do this should not be difficult in this young country, as we have only seven or eight institutions giving medical education, and these are all universities, or closely affiliated with them. If a province, better a group of provinces, or, best of all, Canada as a whole, drafted a schedule of requirements necessary for the education of applicants for license, the universities would, in their own interests as well as in those of higher education, make the necessary provision to meet them. Such a schedule should specify the length of each academic year of work apart from vacation, examinations, etc.; the necessary laboratory equipment; the amount of laboratory training; the minimum of hospital facilities, and the time necessary to be devoted to work in hospitals; the character of the training to be given therein; that a critical record of the student's work during the session be made day by day; that the instructors shall

be capable, and, if deemed wise, that at least a certain proportion of them shall devote their whole time to hospital and research work. If, under such conditions, the student's work and his knowledge of the subjects are certified to by each department as fulfilling all the requirements, your board should be able to accept them with confidence.

Hitherto a certificate of attendance is all that has been required. The attendance need not be more than fairly regular and may be quite perfunctory; in fact, such a requirement, by emphasizing the attendance and ignoring the work, is rather a premium on idleness, as the idler is equally entitled with the worker to be certified as having fulfilled the requirements. It would be quite a different matter if the applicant were required to present evidence that his knowledge and work were up to the required standard, as no self-respecting representative of a department would put his name to such a certificate unless the requirements were fully satisfied. Even his own good name and personal interests should prevent his doing so. To insure that the conditions are being carried out satisfactorily, an expert commission, knowing the needs of students and how best to meet them, should be appointed which should from time to time visit the various institutions at which students are being prepared for your license to be satisfied that the requirements are being fulfilled.

"Walking the hospital" has long ceased to be efficient as a means of becoming proficient in medicine. It is not sufficient to listen to even the most instructive clinics. The student must himself *do the work* in the wards and laboratories and learn the meaning of all the facts that he finds and their bearing on each other as well as on the patient under his observation, and how best he may meet the various indications. He has not only to find out all the facts before him, but to learn how to search them out. Few of us, in the plenitude of our wisdom, realize the enormous difficulties with which the student is brought face to face. To cope with these problems he should have the most painstaking guidance and the wisest counsel. In earlier times the student acquired his practical training during his apprenticeship to a physician or surgeon, an apprenticeship that all were required to serve, and an excellent training it was if he had the good fortune to fall under the guidance of a capable man. Unfortunately the system, which had much that was excellent and that cannot be replaced by any other, has become inadequate for the requirements of modern medicine, owing to the great increase of laboratory training which is required.

With the changing conditions, while we have made great advances in scientific knowledge, we have at the same time lost much of the personal side of our professional training.

There is a growing feeling that those who are engaged in active practice are not in a position to give the best instruction in medicine. This is not the place or occasion to discuss this important matter, but it may be said in passing, that there can be no room for doubt that the teaching of the student in the basic principles of medicine and his guidance in working out these principles in relation to patients in the hospital wards, should be done by well-trained men, who are capable instructors. I say *capable instructors*, because too little importance has been attached to the capacity to instruct on the part of those teaching clinical medicine and surgery. The teaching of clinical and laboratory methods should be done by capable instructors who are devoting their whole time to this and research work. This would ensure the work being carried on in proper sequence and with regularity, and with the certainty that the student does all the work, both of the laboratory and the ward, properly and with understanding. The present method of giving students their training wholly by practitioners must necessarily be more or less irregular and haphazard, and therefore inadequate to the attainment of the best results. So far at least as the training in clinical and laboratory methods and practice are concerned, the same principles should be applied to the teaching of medicine as obtains in the other departments of university work.

That the profession through their national authorities have a right to consider the efficiency of the instructors in the institutions sending graduates up for license to practise, cannot be gainsaid. They certainly have the right to demand that the facilities for instruction, both hospital and laboratory, shall be adequate to the needs for preparing undergraduates for their licenses, if so, why should they not also be permitted to draw attention to lack of efficiency, if such exist, in the staff who are to use these facilities?

To carry out such a scheme as is here outlined should not be a difficult matter in Canada with its small number of educational institutions. Why should not Alberta lead the way? Your neighbours, British Columbia and Saskatchewan, should be ready to join you. Alone you can inaugurate a reform in medical education in Canada and establish a standard of qualification such as will place the practitioners of this province on a higher plane than that to be found elsewhere. You would set an example which all the other provinces must follow. National registration would then

result as a natural consequence, and that, too, on the basis of the highest qualification. A commission might be appointed to study the whole question and, after consultation with the universities, draft the schedule of requirements to be complied with by applicants for license. The universities would no doubt readily comply with the requirements, making such changes in the curriculum as might be needed. The universities are sometimes charged with maintaining too low a standard of requirement for graduation. While there is some truth in these charges, yet it should not be forgotten that every improvement in the methods of medical education and advance in the requirements for education, at least in Ontario, have originated with the universities. No fear need, therefore, be entertained that obstacles will be placed in the way of proper advance by any properly equipped institution. Such a course as I have outlined would be less expensive in time and money than the present obsolete and ineffective one, and at the same time assure that none but the fully qualified would be registered.

It would also not only render it necessary for existing institutions to raise their standard of training to the plane which you adopted, but it would prevent any new ones being established with a lower standard. If a duly high standard of preparation be exacted, the number entering the ranks of the profession would not exceed the needs of our rapidly growing population. To convince any one that prompt action in this matter is necessary, we have only to study the problem it has become in the United States. In that country very creditable improvement has been made during the last few years, but the obstacles in the way of progress are so great that it will require many years of unremitting effort to raise medical education to a satisfactory standard. However, I see no reason why they, too, should not adopt some such plan as is here suggested of requiring all candidates to submit satisfactory evidence of a certain definite course of training before presenting themselves for license. Such a course of action is probably within the rights of each state, as it is here within those of each province. It is much easier to prevent evils than to cure them.

This matter is eminently suitable to be undertaken by the national association, which is to meet here next year; the occasion would seem opportune for it to take up this work. Let it bring its influence to bear on the Dominion Registration Board to require of all teaching institutions that ample facilities be provided in the way of hospitals and laboratories, that the staff be duly qualified, that the time devoted to the work by staff and students shall be

ample, and that no student be permitted to present himself for examination unless his record of work shows, not only that he has attended during his full course, but that he has done all his undergraduate work satisfactorily. If the work during the whole course has been properly done, and the record, certified by each department, shows that the applicant is qualified to present himself for examination, the result will seldom be doubtful. The good name of the university should be a sufficient guarantee that the work of the student is well done, and no head of a department would jeopardize his good name by certifying to a man's work unless it is satisfactory. The examination, if necessary at all, might well then be confined to matters having to do with the application of his knowledge to the practical work of his profession. In time, it is possible that after graduation a year's training as an interne in an approved hospital should be required before a license is granted. In that case the student's course would extend to six years, or, if he took a combined science and medical course, to eight years, a sufficient time to enable him to qualify as a safe, capable physician. Such a plan should also be the best means of developing his character as a man of honour as well as of high attainment in professional knowledge.

That the undergraduate should have due attention paid to the ethical side of his character needs no argument. Under existing conditions of defective preliminary education, and an overcrowded curriculum for the time allotted to it, it is well-nigh impossible to do anything in the way of ethical instruction and character building. Unfortunately the conditions incident to a young country are not conducive to the ethical and cultural side of education. Canada stands high in the estimation of the world for both the training of her undergraduates and the high ethical character of her physicians, but her development has reached such a degree that there should be much improvement in the training and culture of the profession. This can be done without inflicting hardship on any applicant for license. Such an advance on our part should give a stimulus to education in general and to university undergraduate work in particular.

These remarks have regard to the Canadian trained graduate only; what of those coming from Britain and foreign parts? If we are to raise our standard of qualification and culture, we must admit the highly qualified from all parts. If admission by examination is a failure as regards the Canadian graduate, it must be equally so with those from other countries. May we not apply to them the

same principle of requiring evidence of proper undergraduate training? The graduates of such universities as Oxford, Cambridge, and London, might well be accepted without any hesitancy. There will be no danger from an influx of such men, as few of them would wish to come. As to the graduates of other British institutions there might be some difficulty, as at some of them there are many students who spend years of idleness about their university, hoping in time to pass the ordeal and graduate by some means; but the difficulty would right itself in time, as it would soon become widely known that in this country no one would be received without satisfactory evidence of thorough training in each and every year of the undergraduate course. As in all young countries we stand in great need of more men of marked attainments and high culture. We are often, and with justice, charged with inbreeding, and therefore with narrowness. If we would attain the highest available status, our portals must be open to the well-trained and cultured from every country. In no way can we more effectively raise our standard of knowledge or add to our culture. There is no danger of overcrowding from such a class. In a short time the graduates of some of the universities of the United States and other countries should be admitted freely, as they will prove to be of distinct value in aiding us in raising our standard of qualification and in adding to our reputation as a profession. Canada has not as yet added much to the world's stock of scientific knowledge, and therefore needs all the men of high scientific training who may wish to come to her.

Through your Licensing Board you have in your own hands the power to place this province in an ideal condition in the interests of the public as well as of your own. At the same time, you would be acting for "the good of Canada" in a far higher sense than are the majority of interests for which that talisman is invoked. Your influence as a large and growing community would, if your demands were just and reasonable, be so felt by all the universities in this country that they would readily comply with the requirements. The other provinces, especially your neighbour on either side, would doubtless join with you or soon follow your example, and Dominion registration, on the basis of the highest standing, would become in a short time an accomplished fact.

NOTE: Since this address was given the Ontario Medical Council has decided to accept the University results in all subjects except Medicine, Surgery and Obstetrics; in these examinations are required. It has apparently done this without exacting any further conditions as to a student's work, length of course, or equipment and facilities provided by the University: it almost appears that they had decided to forego all responsibility.

BACILLUS LEPRÆ IN THE NASAL MUCOUS MEMBRANE

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IT was in 1871, forty years ago, that Hanson first demonstrated the bacillus which is now universally accepted to be the cause of leprosy. His observations were published in 1874. The exact manner, however, by which the germ gains access to the human body, is still a matter of considerable doubt. Many and various are the factors and agencies which have been incriminated as the *materia peccans* during these last forty years. Heredity no longer occupies a prominent place as the chief means of its spread and continuance, the most that can be claimed for it is that the child born of leprosy parents may inherit a constitution more susceptible to the attacks of the leprosy bacillus than that of a normal individual. The theory of contagion has gradually forced its way to the front, though the struggle has been a long and arduous one between the contagionists and non-contagionists. One of the leading and most prominent supporters of the latter school was the late Dr. Bevan Rake, medical superintendent of the Cocorite Leper Asylum. It is now generally accepted that the disease is propagated by contagion only, direct or indirect. This contagion, however, is evidently of a very low power, certain unknown conditions being required before the disease can pass from one individual to another. This probably explains why it has taken so long to establish definitely its contagious nature. As an example of its small contagious power, may be cited the fact that a husband or wife may suffer from the disease without communicating it to the other. We have had such a case under our care, the family living in good hygienic surroundings.

INSECT THEORY OF INFECTION: The most recent theory as to the ætiology of this disease is that it is propagated by means of insect-bites. Since it has been definitely ascertained that insects play an important part in the transmission of various diseases,

many have naturally turned towards this source in the hope that it might throw some light on infective diseases, where the mode of origin was obscure. Leprosy is the latest to be brought under this new search-light. Various observers^{1,2,3} have at different times drawn attention to the possibility of the disease being spread by insects such as flies, mosquitoes, fleas, lice, the bed-bug, itch, and even the demodex folliculorum. Goodhue,⁴ in 1906, at the Molokai leper settlement, found an acid-fast bacillus in the mosquito (*Culex pannens*) and the bed-bug (*Cimex lectularius*); this acid-fast bacillus he considered to be the bacillus lepræ. At the last International Congress on Leprosy, Professor Ehlers,⁵ who had himself conducted some experiments on the subject at the Danish island of St. Thomas, with negative results,⁶ while admitting the possibility of this method of infection, considered it to be very rare. A resolution was, however, passed to the effect that it was desirable that the question of its transmissibility by insects, as well as the presence of leproid disease among animals (rats), should be studied.

Castellani, discussing the subject says, "Everything in the history of the disease appears to favour its spread by animal agency." Goodhue's discovery of the germ in insects has recently been simultaneously confirmed by two observers in South Africa. Drs. Sandes⁷ and Long,⁸ working quite independently, have succeeded in demonstrating an acid-fast bacillus similar to the bacillus lepræ in bed-bugs fed on the blood of leper patients. There is no doubt that the hypothesis that the disease is transmitted by blood-sucking insects fits in admirably with many facts known about the disease, and helps to explain many hitherto obscure points.

At the Trinidad asylum, since its establishment over forty years ago, there has not been a single case of the disease recorded among the nursing Dominican sisters of the attendant staff or among the washerwomen. The wards of the asylum are always kept scrupulously clean, a special prize being offered monthly to the inmates whose wards are the cleanest. Two of the attendant chaplains have, however, contracted the disease. The first case was recorded in Dom Sauten's book, "La Léprose"; the other has been under our personal observation. The chaplain's house is in the asylum grounds, though far way from the patients' wards.

NASAL THEORY OF INFECTION: The fact that the disease is probably propagated by a blood-sucking insect, should not make us close our eyes to other possible, and perhaps not uncommon, methods of infection. The chief channels hitherto considered have been the alimentary canal through commensal feeding, the skin by

inoculation through abrasions or sores, and the respiratory passage by inhalation. It was generally thought that the nasal passage and upper respiratory tract was the most common path of infection. In 1897 Sticker⁹ propounded the theory that the nasal mucous membrane was the primary seat of the disease. He found the bacillus lepræ there in one hundred and twenty-eight out of one hundred and fifty-three cases he examined. He considers that the initial lesion of the disease is a specific ulceration, or more rarely a tubercle, of the cartilaginous septum of the nose, and that this lesion persists and is an active source for the diffusion of infection. Epistaxis, or a nasal discharge, often early symptoms, are, he says, a clear indication of the existence of such a specific lesion.

Jeanselme and others had already drawn attention to the large number of bacilli present in the nasal secretion of leper patients. A subsequent observer, Lié,¹⁰ of Bergen, found the bacilli in only 35 per cent. of the cases he examined. Kobbe,¹¹ quoted by McLeod, examined the nasal mucous of one hundred and thirty-five lepers for the bacilli at Rolben island. He found the bacillus in all of the forty-five nodular cases examined, in thirty-two out of thirty mixed cases, and in twenty-one out of sixty anæsthetic cases. Speaking at the recent congress at Bergen, McLeod¹² stated that "probably the most common route of invasion is via the nasal mucosa and upper respiratory tract. This view is corroborated by the frequency with which the nasal symptoms form one of the earliest manifestations of the disease, such as rhinitis, coryza, ozæna, epistaxis, lepromata in the nasal mucosa, and the presence of lepræ bacilli in the nasal discharge." Dr. Victor Heiseer,¹³ Director of Health for the Philippine islands, states that the earliest and most constant symptom observed in the Philippine cases was an ulcer situated on the nasal septum. He found this sign present long before there were any other objective or conscious subjective symptoms of the disease.

From October, 1910, to April, 1911, we carried out a systematic bacteriological examination of the nasal secretion of about one hundred and eighty-five lepers at the Trinidad asylum. We found the bacilli in all of the one hundred and five tubercular cases we examined, but only in nine out of the eighty anæsthetic cases. These results compare fairly closely with those obtained by Professor Deycke¹⁴ at the Mahaica asylum, British Columbia. He found the specific bacillus in all of the eighty-one tubercular cases he examined, but only in six out of the thirty anæsthetic cases. We should state that in our anæsthetic cases are included a large number of patients

in whom the disease had long been arrested, all active signs having completely ceased. Some of these patients had the disease for periods of fifteen, twenty, and twenty-five years, and in one case for over forty years. A much larger percentage would probably have been obtained if only anæsthetic cases showing active signs of the disease had been chosen.

The following table represents in tabular form the results obtained by different observers.

Observer	No. of Cases	T	+	A	+	A	+	No. of Cases	Per Cent. of Cases
Sticker.....	153	...	...	...	...	...	...	128	84
Lié.....	...	...	...	...	...	...	...	...	35
Kobbe.....	135	45	all	60	21	30	22	98	72
Deycke.....	111	81	all	30	6	...	...	87	78
De Verteuil*.....	185	105	all	80	9	...	...	114	62

T stands for Tubercular cases; A, for Anæsthetic; M, for Mixed; +, for Positive cases.

*In our series mixed cases are included under the heading, "Tubercular."

We have not been able to obtain the figures as regards division into tubercular and anæsthetic types in Sticker's and Lié's cases. It is, however, probable that the greater percentage of Sticker's patients were suffering from the tubercular type, while Lié's were of the anæsthetic type. As a result of these observations it may be stated that the bacillus lepræ is to be found in the nasal secretion in every case of tubercular leprosy; in anæsthetic leprosy it is to be found in only 10 to 30 per cent. of the cases. The following figures are given by Wise in "A Report on the Nastin Treatment of Leprosy at the Mahaica Asylum, British Guiana, 1908-10." Nodular cases, 87·7 per cent.; anæsthetic cases, 20·3 per cent.; mixed cases, 43·3 per cent. There can be no doubt as to the frequent and often early presence of nasal lesion in leprosy even in anæsthetic cases. In a case under our care of anæsthetic leprosy in a young girl aged twelve, epistaxis was the first symptom of the disease noticed by the child and her mother. At the time we saw the case, a nasal discharge and hæmorrhage were still the most prominent symptoms. In this discharge were myriads of bacilli. This patient was placed under Nastin treatment and has done remarkably well.

It does not follow that the early nasal lesion is necessarily the primary lesion of the disease. It may merely be that the nasal mucous membrane is particularly susceptible to the attacks of the bacillus when once it has gained access to the human system. This is the view apparently held by Brinckerhoff,¹⁵ director of the

Leprosy Investigation Station at Hawaii, and Moore, of Honolulu. They carried out a systematic examination of the nasal septum, as well as a bacteriological examination of the nasal secretion, of over seven hundred individuals belonging to a race known to be susceptible to leprosy, in the hope that it might reveal early cases of the disease. They concluded that no inconsiderable number of inmates in Hawaiian institutions have, as the sole evidence of leprosy, lesions in the nose which are discharging the bacillus lepræ. They doubt the specific nature of the ulcer and its significance in determining the site of the primary lesion. At the same time they admit that the specific microbe is frequently found in nasal discharge of lepers, and insist on the importance of this from a prophylactic point of view and its value as a diagnostic test in doubtful cases. This lesion would, therefore, seem to be more in the nature of a channel of exit than a path of entry to the specific bacillus.

An important point against the nasal theory of infection is the fact that the bacillus is frequently absent from the nasal secretion in cases of anæsthetic leprosy. The supporters of the nasal theory state that the primary lesion or ulcer in these cases has healed and can no longer be detected.¹⁶ The two chief varieties of leprosy, the tubercular and anæsthetic, are so essentially different in their course and clinical manifestations as well as in their geographical distributions (the tubercular type is more common in temperate climates, while the anæsthetic variety is more prevalent in tropical countries), that various theories have been brought forward to explain this difference. It may be that it is due to a different method of infection. In the one case, from the primary inoculation in the nose the bacilli make their way by means of the lymphatic vessels into various parts of the body, while in the other, they are injected directly into the blood stream by the bites of blood-sucking insects. This is merely in the nature of a suggestion on our part, the reasons for this view being given in a letter to the *British Medical Journal*, October, 1911.

There are certain minor anatomical and pathological considerations which an exacting critic might place against the nasal theory of origin. The bacillus lepræ bears some striking analogies to the tubercle bacillus, not only in its staining and morphological characteristics, but also in its pathological manifestations. Now, primary tubercular disease of the nose is a rare condition. The nose is particularly well guarded against invasion. The vestibule is lined with thick skin as far back as the limen nasi, and, moreover, is armed with thick recurved vibrissæ. The Schnederian membrane

is thick, erectile, endowed with very high reflex excitability inimical to bacterial growth.¹⁷ On the other hand, in spite of this protection the nasal mucous membrane is specially liable to infection and inflammation from air-borne particles or bacteria. The offending bacteria are caught in the sticky, nasal secretion, and should the resistance be low, have a good chance to invade the body. The power of the nasal mucous membrane to catch undesirable material is very well illustrated in towns during a fog.

CONCLUSIONS

1. Leprosy is probably propagated in many, if not most, cases by means of blood-sucking insects. Everything in the history of the disease appears to favour such a mode of transmission.

2. There are, however, other possible paths of infection, the most common being the nasal mucous membrane. The early implication of this organ and the constant presence of the specific bacillus in the nasal secretions are the chief points in support of such a contention.

3. The early and frequent presence of the specific bacillus in the nasal secretion affords a ready, easy, and valuable method of diagnosis in doubtful cases. A nasal examination should always be made in all obscure skin and nervous conditions in patients coming from a country where leprosy is prevalent.

4. The bacilli which leave the system even in the slightest nasal discharge, may be an element of serious danger to those in constant contact with leper patients. Nasal hygiene, not only from the point of view of prophylaxis to others, but also from the patient's own benefit, should form an essential part in the treatment of lepers. In the Trinidad asylum an antiseptic nasal douche is in daily use among the patients.

5. In view of the strong possibility of infection through the nasal passages, it would be wise for those who come in close and constant contact with lepers to practise nasal douching with some mild antiseptic lotion. The inhalation of a volatile oil, such as eucalyptus oil, or plugging the nostrils with cotton wool dipped in some antiseptic, as suggested by an American authority, might serve equally well.

We wish to thank the dispenser, Sister Marie Jourdain, for valuable help given to us in carrying out the bacteriological examinations. The Trinidad asylum is under the administrative control, as well as the nursing care, of the French sisters of St. Dominic.

It can truly be said of these devoted ladies that "theirs is the noblest work on earth."

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PSEUDO-MUSCULAR HYPERTROPHY

By M. G. BURRIS, B.A., M.D.

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MY part in to-day's programme is to present to you the story of one form of hereditary disease which has attacked certain families in the eastern parts of Colchester and Halifax counties. Pseudo-muscular hypertrophy, to which I refer, is a rather rare and interesting disease, presenting a definite clinical picture and a doubtful pathology; for while some claim to have discovered degenerative changes in the cord, and hence consider it of myelopathic origin, others assert as confidently that no changes of any kind can be demonstrated in the central nervous system, and so place it, as an independent affection, among the muscular dystrophies or myopathies.

Without venturing an opinion on this matter, I wish to give a few notes upon the disease as it has appeared in this series, and to show by means of chart and otherwise that it has displayed marked hereditary tendency, and has adhered most faithfully to the original type through three generations. The history of the disease is, perhaps, more than usually pathetic in that it selects the growing child as its victim, very slowly renders it weak and helpless, and finally, at what should be the beginning of manhood or womanhood, results inevitably in death.

The people among whom these cases appeared were of Scotch and Irish stock. They came to Nova Scotia from their native lands about the year 1760, and settled in eastern Colchester. I have a fairly complete history of the generations of children born since that time and those of the first generation seem to have escaped the disease altogether, for between the years 1760 and 1820 no cases appeared.

My chart starts from the year 1815, when John D., of Musquodoboit, married Mary C., of Stewiacke. Of this marriage six sons and six daughters were born. Of the sons, three were affected by the disease, while all of the daughters remained normal. The remaining sons married and two of them reared families, but none of their children were affected, and, so far, none of their grand-

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children have suffered. Each of the six daughters married and of their children a total of seven sons fell victims. All of the daughters escaped, but the disease has reappeared and is fast nearing its close in a son of one of these daughters. This case I have personally examined.

The first three cases which appeared sufficed to impress the parents and relatives that some hereditary evil had fallen upon them, but they were totally unable to trace its origin, and it is reasonable to conclude that for two generations, at least, preceding this, no cases had occurred.

The afflicted ones of the family were known as "the crippled boys," but scientific knowledge of them was not lacking, and the condition was apparently recognized by Dr. Harrison, who practised in the Musquodoboit Valley some fifty or sixty years ago. His dictum that "none of them will see twenty" proved only too true, and is the more interesting from the fact that the first contribution to the literature upon this condition appeared in 1830 from the pen of Sir Charles Bell, so that in this, as in many other things, Dr. Harrison showed that he was not behind in his knowledge of things medical, and earned for himself such respect that his name is still mentioned among the old people of that section with much more than the ordinary esteem.

In this family the story of "the crippled boys" is almost a household one, and the mothers recognized, in many cases before the attending physician, that another son had been added to the list. Here I cannot forbear mentioning that at least some of the mothers claimed to know before confinement that a male child would be born and that he would be a "cripple." They based this belief on the observation that they did not experience the usual amount of quickening, and that the child felt heavy and lifeless in the womb. Whether this was fancied or real, I cannot say, but it is certain that these children were always slower and more lethargic in their movements than normal children. At any rate the point is of interest since I have not seen any mention of it in the literature.

I have obtained accounts from the sisters and mothers, who nursed and cared for the children long since dead, and have had the privilege of examining the case still living and of obtaining from his mother a detailed account of the onset and progress of the disease. This mother cared for her younger brother, who was a "cripple," and the following verbatim account is for that reason, I think, of more than the usual importance. The following are the chief facts: As a baby he was slow and lazy in his movements. He

did not learn to walk as soon as other children and could never run about and indulge in active games. About the age of three years she first noticed a peculiar hardness and increase in the size of the calf muscles, but the child continued to grow and to gain slowly in strength until about the age of five or six years. At that time he could walk and run fairly well, but displayed a tendency to fall readily, and was more or less clumsy in movements generally. From that time on he gradually became weaker and more helpless, although he still continued to increase in stature. Other muscles became affected—those of the hips and shoulders especially, which at first became larger and firmer and later much wasted. He then walked in a peculiar way, waddling along with shoulders thrown well back and feet spread wide apart to keep from falling. When he sat down the shoulders were very much stooped. He tripped and fell easily, and had great difficulty in getting up. In doing so, he had first to get upon his hands and knees, and, holding his head low, he finally straightened up by placing his hands upon his knees. His feet became deformed so that for some time he walked "almost on his toes, and always wore the toes of his boots out first."

Later he became unable to straighten the legs and had to give up walking altogether, but crept about for a few years. This too was abandoned, and for two or three years now he has used a wheelchair. He has never been a robust child, and only a few months ago suffered from a severe attack of lobar pneumonia, which has left him very much weakened. Careful questioning failed to obtain a history of any twitching of the muscles or unsteadiness in their movements, excepting such as in late years would result from weakness. He has never complained of pain or peculiar sensations. Indeed, so far as sensation to painful stimuli or to those of heat and cold go, the child has always been normal.

At the time of examination I found the child in an advanced stage of the disease. The calf muscles were very firm and fibrous and falsely hypertrophied. The thigh and gluteal muscles were atrophied, as were also those of the back, chest, shoulders, arms, and hands. The muscles about the mouth were hypertrophied, and there it was evident that the disease was making what will prove to be its last attack, for the cheeks felt firm and hard to the touch, and the finer movements of expression were diminished or impossible. Words were slowly spoken and not distinctly pronounced. Contractures of the flexor type had taken place at the ankle, knee, hip, and elbow, producing marked deformity. Kyphosis was quite marked and "winging of the scapulæ" apparent.

This, in short, has been the history of each of these cases. The disease has pursued a very definite and constant course in all. It began, in every case, before the age of six years, and "none of them have seen twenty." Appearing in three successive generations it has attacked only the sons of the daughters, and has so far left the families of the sons and their descendants untouched.

Having before me the above facts, I think that the diagnosis of pseudo-muscular hypertrophy is reasonably certain. I feel, however, that there is yet a great deal of information to be had in obtaining a more complete history of the family than has been possible in the short time at my disposal.

In conclusion I must thank those members of the profession who have aided me in securing data. They are Dr. D. A. Campbell, who loaned me literature upon the subject, Dr. Dickson, of London-derry, for assisting me in the family history, Dr. Cox, of Stewiacke, who gave me a description of the cases he attended, and Dr. Whitman, of Musquodoboit, who assisted me in the examination of the case described.

CHARTS SHOWING INCIDENCE OF PSEUDO-MUSCULAR HYPERTROPHY
THROUGH THREE SUCCESSIVE GENERATIONS

John D. m. Mary C, 1815.....	*SAMUEL	
	*WILLIAM	
	*JAMES	
	John m.....	Children normal . G. children normal
	Adam m. Janet A. . .	Children normal . G. children normal
	Andrew m.	
	Marion B.	No children.
	*FRANK	
	*SAMUEL	
	*ANDREW	
	Timothy m.	
	Annie S.	Children normal . G. children normal
	Grizell m.	Jane m. Geo. B. . . Children normal . G. children normal
	Adam D.	Mary m. Peter A. . Children normal
		Bella m. Thos. S. . Children normal
		Annie m.
		Willard E. Children normal
		Marion m.
		Edson C. Children normal
	*EBEN	
	Howard m.	
	Annie J.	Children normal
	Elizabeth m.	Owen
	George F.	John
		Mary m. Colin H. . Children normal
		Susan m. Ira D. . . Children normal
		Jane
	Bella m. James R. .	Children normal . G. children normal
	Jane m. William J. .	Children normal . G. children normal
	Mary m.	
	Joseph M.	*JOHN
		*JOSEPH
		Adam m. Eliza M. . Children normal
	*ADAM	
	Emma m.	Byard m. —. . . . Children normal
	John G.	Colin m. —. . . . Children normal
		Minnie m. —. . . . Child normal
		Alice m.
		HAROLD
		Ernest C. Other children (daughters) normal

Names of those affected in capitals.

* Deceased.

OBSERVATIONS FROM BOER-LAND

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PRIMITIVE methods of treating human ills are found to exist in Southern Africa as in all other countries. The impressions gained from a residence of some eighteen months among the Transvaal Boers in the Concentration Camps would lead one to place their attitude of mind regarding these methods on a plane between that of Europe's lower orders and of the savage races, though sometimes the ideas of this Dutch race vie in crudeness with those of the most primitive savages.

The early Dutch settlers in South Africa were isolated from the Old World. As their communities penetrated inland this isolation became more real, and even the modest commodities obtainable near the coast became luxuries. In the case of disease the pioneers, when the necessity arose, were forced to rely on their own curative ingenuity as applied to materials at hand. This developed along the lines of (1) making use of such available materials as would best emulate in their effects known but unavailable substances; (2) adopting the expedients of the natives with whom they were in contact; or (3) pure experiment. If the patient under any such treatment benefitted, this happy result was attributed to the remedy, and the knowledge was stored up for future use. I would relate a few of these crude endeavours.

Cattle dung, while still warm, came to be used as a substitute for bread- or meal-poultices, when these were not available, and eventually supplanted them. In time some of the efficacy of this application was attributed to inherent qualities in the substance itself, and its employment was further extended to watery solutions. A negro patient once presented himself whose knees were completely flexed from a parasitic muscular disease. The Boer caretaker of the hospital declared that he could cure him in a very short time. In response to an inquiry as to his mode of procedure, he explained that he would stir up water and manure in a tub and bathe the affected members in the solution.

Headache has called forth many remedies. One of the most

popular is to fashion with a knife from a potato, a turnip, or other solid vegetable substance, two conical portions of such size as to admit of the smaller end being inserted into the external auditory meatus, the larger end protruding like some savage ornament. These are supposed to draw the headache out. This method may be combined with, or supplanted by, pressing thin slices of the vegetable selected to the forehead until they adhere. These are placed completely across the forehead. The use of a necklace formed of portions of the fresh potato is also common.

Eucalyptus, either in the form of the leaf or the oil, is probably more universally employed by these people than any other medicinal substance. As a rule it is easily obtained, for these trees, like stately sentinels, surround most of the farmhouses. The drug may be administered internally or applied locally. When used to combat headache, the leaves of the blue gum, as it is commonly called, are bound to the forehead with a white handkerchief, or, by those of dainty tastes, strung together and tied in the form of a wreath. If the oil be used it is simply smeared on the forehead.

It is said that if a doctor wishes to be popular with the Boers he must on every possible occasion prescribe a liniment, or "smear god," as the Taal has it. It matters little to them what it contains as long as it smears on well. Besides the oil of eucalyptus, sweet oil, castor oil, and animal fat are freely applied. A very common practice in local inflammation and swelling is to smear a mixture of red lead and castor oil over the diseased area, the whole trunk being sometimes covered with it.

In such diseases as pneumonia and pleurisy it is usual to paint the affected side of the chest with varnish or some substance that will afford an impermeable covering. Many, in addition, apply outside this a sheet of oilcloth or thick paper and make it adhere to the body. The object of this practice obviously is to imprison the heat in the affected part. The custom of completely covering the body with green paint was commented upon in England at one time, but I have never seen it here, and have heard of its occurrence in one camp only, where three children were the innocent objects. Needless to say all died.

Early in my connexion with the department, one of the best educated men in the camp at Balmoral in consulting me about his child, who was dying of dysentery, asked my opinion of an odd custom. This was to kill a goat, immediately to slit up the abdomen, and remove the entrails. The child was then to be wrapped in the still warm body-cavity until the skin cooled. This, as I

afterwards found out, is a common custom in any case of severe illness. Some, in desperate cases, resort to the opening of a large vessel in the neck of a dog. Collecting the blood in a suitable receptacle, they immediately serve it up to the patient, who is forced to take as much as he can swallow. The idea is that the nourishing and vitalizing powers of the fresh blood will carry a doubtful case through a crisis.

Every household endeavours to have its supply of sulphur. Diluted freely with powdered sugar it is a favourite remedy for the common cold. It is used, too, in any chronic cough or throat trouble, and besides its immediate curative effect it is supposed to grant a more or less lasting immunity from such diseases.

In almost every Dutch homestead may be found a small box containing an assortment of medicines in condensed solutions—a development of the pre-tabloid days. This is called the “huis apotheek” or house apothecary. In it there is some remedy that is supposed to antagonize almost every disease, and the confidence placed in them is absolute. They are in reality cheap and unstable compounds on which the manufacturers make enormous profits. In several there is opium, and it is not unknown for a child to be given so much of this that death results. Many of the people brought these medicine boxes with them to the camps, and a special order had to be issued confiscating them in order the better to ensure all cases of illness being brought to the notice of those in authority.

Cold water is always used more or less sparingly by the ignorant classes, and in some of the camps force has to be resorted to in the prosecution of cleanliness. Many, indeed, seem to think that a cold bath in the winter season means certain death. But when it comes to ordering a fevered patient to be bathed or sponged, the practice is looked upon with horror. Should a person die after such treatment it is invariably looked upon as the direct cause of death. Relatives will plead with the medical attendant to forego any such measures, and even attended with the best results the method is looked upon with suspicion.

In treating infectious diseases the greatest difficulty is experienced in making understood the necessity of any precautionary measure, and the enforcement of these is followed by continuous complaints. Take, for instance, a case of scarlet fever occurring in a family of six children living in one tent. The sick member is in due course taken to the infectious ward of the hospital and given special nursing. The family is then removed to another

tent in an isolated area, their goods thoroughly disinfected, and food, fuel, etc., brought to them. Yet, on most occasions, all this is bitterly resented, the mothers being more content to remain as they had been in the old surroundings.

The rule among the people with regard to the giving of food to the sick is to give them what they ask for. This is a favourite cause of disobedience to medical orders on the part of the mothers. A child seen to-day, prostrated with fever, may to-morrow, in the face of the strictest orders to the contrary, be found devouring a piece of bultong (sun-dried meat) because "he felt so much better." If, in a disease like enteric fever, the patient be kept strictly on a milk diet, the friends will frequently accuse the attendants of starving him. Smuggling various foodstuffs into the hospitals became so common that special burgher police have had to be kept on duty day and night, and barbed wire fencing placed around the hospital. Even these measures do not prevent visitors from frequently bringing in forbidden articles concealed beneath their clothing, and disposing of them when the nurse's back is turned.

SEMMELEWEISS AND HOLMES

BY H. E. MACDERMOT

McGill, '13.

TWO names are indissolubly linked with any reference to the history of puerperal fever, those, namely, of the Hungarian, Ignaz Philipp Semmelweiss, and of the New Englander, Oliver Wendell Holmes; but while in past years there has been some difference of opinion as to the respective merits of each in the matter, there can be no doubt now that it is Semmelweiss to whom the honour is due. Dr. Holmes at first attracted popular attention most, but with the work of Semmelweiss before us, the main points of which I hope to make clear, it is obvious that his were the exhaustive and original labours, and that it is to him we owe the first clear conception of the nature of that terrible scourge, child-bed fever.

Ignaz Semmelweiss was born in the year 1818. In 1846, that is, at the comparatively early age of twenty-eight, he obtained the post of assistant in the great Lying-in Hospital of Vienna, and is described as being of jovial, easy-going appearance, stout, bald and florid, and with a marked Hungarian brogue. Above all, however, he had an immense capacity for work, and, with no particular bent of mind at first, was soon absorbed in the problem presented in the fearful ravages of puerperal fever in his wards.

The conditions in the hospital, however, were so closely related to his final solution of the problem as to deserve a somewhat detailed mention. Six years before his appointment the hospital had been enlarged and divided into two clinics, named the First and Second Clinics, respectively. In the First Clinic the medical students received their training, whilst the Second was devoted to the teaching of midwives alone. The training in each case differed in little except the *post mortem* work which was done by the students alone, and was carried on to an extent characteristic of the teaching of the day.

From statistics which had been kept since the division of the hospital, Semmelweiss found a peculiarly persistent difference in the extent of the mortality which existed in the two Clinics. In 1842, for example, there were 518 deaths in the students' division and

202 in the other; and again, in 1846, there were 459 deaths in the First Clinic and 105 in the Second, whilst in other years the proportion was almost unvaryingly twice as great in the First as in the Second Clinic.

Thus Semmelweiss was presented with a double problem, and, as will be seen, it was the mystery of his hospital variations in mortality that gave him the clue to the main issue. The knowledge of his day regarding the fever was, as far as he could gain access to it, in a state of great confusion, so much so as to be practically valueless to him; it would not be easy even to give a list of the different theories on the subject, nor would it be particularly attractive, except for their variety, perhaps, but an idea of what they were like may be gained from a somewhat humorous report of a discussion on the subject which took place at the Academy of Medicine in Paris about this time: "Among the thirteen Academicians, whom we have heard," as the summary runs, "we can count, essentialists, demi-essentialists, essentialists against their will, essentialists without their knowledge, absolute localizers, half and a quarter localizers, localizers with a leaning towards essentialism, and essentialists with a love of localization, specificists, typhists, traumatists and neo-traumatists."

But divided as medical opinion on the subject was, there was one doctrine which was quite generally accepted. According to this, there was in the ætiology of puerperal fever two main classes of factors, those acting from without and those acting from within the organism, these latter being supposed to depend on the condition of the organism during pregnancy and parturition. In detail, these factors were described in great variety, the internal especially; it was said that the fever was a milk fever, one French observer claiming to have found milk in the peritoneal cavity; that it was due to abnormal lochia; that it was erysipelas (a view which prevailed especially in England and America), and, somewhat more vaguely, that it was due to a specific something which spread by contagion.

The external factors were far more vague and unsatisfactory. There were, it was supposed, influences of a cosmic, telluric, and atmospheric nature at work, which gathered themselves together as a *genius epidemicus*, and after these had been at work for some length of time in a given place there was developed a miasma or special deadly entity which might remain indefinitely, witness the Lying-in Hospital. And besides these, some held to a belief in a definite contagium, assigning it the shape of a halo or areola clinging round the doctor or patient.

Of all the theories, that was the most valuable which considered that in some way or other the fever could pass from one patient to another. It had the effect of inducing very careful prophylaxis, and consequently the fever was far less prevalent in the countries where the theory was held, as in Great Britain, and to a certain extent in the United States. On the continent, on the other hand, there was sometimes a despairing tendency to allow the terrible and indefinable *genius epidemicus* to have its way.

Semmelweiss, however, was satisfied with nothing that could not explain his carefully observed facts, for he was of that independent cast of mind which is essentially scientific. He had, of course, to apply the current explanations to his facts, and the manner in which he did so raised him at once above the level of his *confreres*. He had first to account for the mysterious difference in mortality in the two clinics of his hospital, and here his methodical, orderly reasoning proved that the mystery was only increased by the attempted explanations.

It was cheerfully and confidently assumed, for example, that the epidemic influences caused the greater comparative mortality. Why, then, asked Semmelweiss, should these vague influences not affect all parts of the hospital building alike, for the two clinics were under the same roof; unless the absurd conclusion should be reached, that the influences preferred one part of the building to another, or, if, as was also supposed to be the case, they acted on the women before their admission to the hospital, then there was the further unlikely deduction that apparently the *genius* had a foreknowledge as to the destination of its victim. He showed, too, that lying-in women of the city outside of the hospital were, in the vast majority of cases, quite free from the fever.

Again, he compared this so-called epidemic with that of cholera, in which any and all parts of the city were liable to be attacked. In the case of puerperal fever, some actually proposed to check its ravages by closing the Lying-in Hospital for a time, but who, asked Semmelweiss, would think of closing the cholera hospital in the middle of a cholera epidemic. Besides, epidemics like those of cholera were only experienced occasionally, whilst puerperal fever was ever with them.

He then examined the charges against the atmosphere; it would seem, he said, that with varying conditions of temperature it would be most likely that there should be varying results in the amount of fever, and yet the mortality amongst his patients was, on the contrary, the same in winter as in summer, in spring as in

autumn. Moreover, the Second Clinic should be affected by the weather as much as the other.

This was his reasoning, and it led him to the conclusion that the fever was due to causes acting within the walls of the hospital itself. Others held the same view, though with less conclusive reasons for doing so, and attributed the fever to various circumstances. There was some plausibility, for example, in the view that it was due to overcrowding in the wards, but on examining into this Semmelweiss found a condition of things which should on this assumption have produced an exactly opposite state of affairs; for it had come to pass that the Students' Clinic had established so evil a reputation for itself that women coming to the hospital made every effort to get admission to the Second Clinic and avoid the First, with the result that the Second was always full and had at times to transfer its overflow to the other ward. Semmelweiss gives in his "Etiologie" long tables of statistics in illustration of the overcrowding of the midwives' clinic, sparing no effort to make his proofs irrefutable. He went further, and showed by his tables that even when the overcrowding diminished in extent, the mortality showed no proportional decrease.

It was thought by some, again, that certain religious practices were responsible for the greater number of deaths in the First Clinic. The arrangement of the hospital was such that when the priests were summoned to give the last rites to dying patients they were able, in the case of the Second Clinic, to reach the sick room without passing through the rest of the ward, whereas, in the First Clinic, the whole ward had to be traversed to reach the room where the dying patients were put, and as on each visit the priests formed a procession with an attendant ringing a bell in front, the attention of the patients was inevitably drawn to the dismal sight. Semmelweiss could well believe that the result would be depressing to the patients; but that it was not fatally so he proved by doing away with the bell-ringing and arranging so that the priests should take a more circuitous route in order that the ward should not be disturbed. The mortality, however, suffered no decrease.

It was supposed that the fact that the women were of the lower, less well-cared-for classes, produced a greater tendency to their being attacked by the fever, but Semmelweiss pointed out that both wards were supplied with patients from the same source; it was supposed that the women suffered so much from wounded feelings of modesty in the bearing of their children in the presence of the men of the Clinic, that they fell a prey to the fever, but

Semmelweiss reminded the supporters of this theory that if modesty were responsible, it was hardly to be expected that an excess of it would be found amongst those who were admittedly, as a rule, the poorest and most degraded of the patients. Furthermore, in the private practices of the physicians of the city amongst the best classes of women, scarcely any cases of fever were met with.

Some urged that the patients were made to get up too early after parturition, but there was no difference between the two divisions in this respect; the ventilation was blamed, but both divisions had the same ventilation; the laundry from the lying-in women was said to get mixed with that of the General Hospital, but it was the same with the laundry of each division; these explanations and more did Semmelweiss examine and refute, sometimes with an earnest laboriousness that they did not deserve.

He then fell back on his own investigations, and greatly favoured was he in having before him such a valuable guide as was provided in the arrangement of the hospital into its two Clinics. It was, indeed, as has been observed, equal to research by experiment.

He noticed before long that whenever in the First Clinic patients underwent long drawn out labour, they were almost certain to be smitten with fever, whilst in the Second Clinic such a termination to a similarly prolonged parturition might, or might not, occur. He was puzzled, too, by the following circumstances: owing to the size of the city of Vienna, it often happened that would-be patients would be overtaken by labour on their way to the hospital from the more distant parts; they would have their child under some archway or on the glacis, and then go on to the hospital. Such cases, Semmelweiss found, showed an extraordinary freedom from attacks of the fever, all the more extraordinary when one considered the hardships the women had gone through. The number of such cases was by no means small, for since they were admitted to the hospital free of charge, for the sake of charity, it was not unusual for women of the lower classes to undergo confinement at some midwife's house, and then come and claim free treatment at the hospital, a very excusable deception when one remembers the terrible risks attending the birth of a child in the hospital itself.

Various commissions were appointed to report on the peculiar conditions of the death rate in the hospital, and one of these decided in 1846 that the fever arose from injury to the genitals of the patients in the examination made for the sake of instruction. It is true that

the midwives of the Second Clinic made similar examinations, but, it was declared, the students were more rough, and especially the foreigners amongst them, and there were a good many foreign students. So the number of students was cut down and foreigners almost entirely excluded, with the unusually successful result that the mortality fell to a rather lower figure. In a few months, however, it rose to even greater heights. The commissioners had nothing more to propose except "epidemic causes with unusual characters" and could offer no remedy.

Semmelweiss was now almost in despair; he had examined and rejected every explanation which had the remotest degree of plausibility, and he had nothing to propose. All he could be sure of was that there was some factor operating in the First Clinic that was absent from the other division, or at any rate was less active there. So eager was he to try anything which might give him the slightest clue, that he introduced into his Clinic the employment of the lateral position in labour, which was followed in the Second Clinic, in place of the dorsal position, which had always been customary in the First Clinic, even though, as he says, he did not believe that there was any advantage in the one over the other, but it might possibly have something to do with the better results which the Second Clinic showed. It is hardly necessary to add that it did not.

And then one day there came to him the news of the death of a friend of his, Professor Kolletschka, who in the performance of a *post-mortem* happened to receive a scalpel wound in his hand. Blood poisoning set in, involving the whole upper extremity and even the chest, the *post-mortem* findings being lymphangitis and phlebitis in the arm, with involvement of the pleuræ, pericardium, and peritoneum, together with a metastasis in one of the eyes.

In a flash of insight Semmelweiss coupled the case of his friend with those of the hundreds he had seen in his lying-in wards, and later, in the *post-mortem* room; here also had there been widespread inflammation and metastases of a nature exactly similar to those that had occurred in the case of Kolletschka, and then there came the irresistible conclusion that even as he had died of blood poisoning, so had the women in the hospital, through the channel of their exposed and wounded genitals. It did not take him long to decide where the poison came from, for he knew only too well how often students and professors alike would pass from the *post-mortem* room to the ward with hands which had at the best been merely washed off with water.

Semmelweiss at once introduced antiseptic measures, causing

the students to wash their hands in chlorinated lime before examining the patients, and the results of his precautions are graphically enough described in his never-failing tables of statistics.

In the month of May, 1847, just after his discovery, the mortality of the First Clinic was over 12 per cent.; in the following seven months it fell to 3 per cent., and in the succeeding year it fell to 1.27 per cent., whilst in the Second Clinic it was 1.37 per cent., the first time in the history of the hospital that of the two Clinics the Second had the greatest number of deaths.

That was the first scientific demonstration of the cause of puerperal fever, and it was of course not quite complete, but Semmelweiss soon saw that the infection need not necessarily come from the cadaver. Any diseased patient might, through the agency of the examining finger of her attendant, be the means of infecting others, and so he widened his ætiology to include all diseased matter that might find its way into the genitals.

And now he could account for his carefully observed but isolated facts. Above all, the mystifying difference between the two Clinics in their respective number of deaths was plain to him, for there was no pathological teaching in the training of the midwives; and so they never had the chance of poisoning their hands like the students. He could see why cases of prolonged labour were so liable to be victims of the fever, for the longer the patient was in this state the more examinations she was made to undergo for teaching purposes, and consequently, the more risk she ran of being infected. The same applied to the "street-birth" phenomenon, for such women did not undergo examination at all, having completed their labour.

The temporary decrease in mortality due to the reduction of the number of students on the recommendation of the commission, was due to the lessened chances of infection of the patients, fewer students meaning less dissection. The subsequent rise Semmelweiss knew to be due to certain changes in the arrangement of his work about that time, by which he carried on an unusual quantity of *post-mortem* work, accounting also for a fact which had been noticed for some time, namely, that whenever a professor in the hospital showed special zeal in pathological work, there was then a rise in the mortality of the First Clinic. In referring to this Semmelweiss says, "Consequently, I must here make my confession that God only knows the number of women I have consigned prematurely to the grave. I have occupied myself with the cadaver to an extent reached by few physicians."

As to throwing the blame on the foreign students, the commissioners were unwittingly quite near the truth, for these particular students happened, as a rule, to do more dissection than their fellows, generally having taken part of their course elsewhere and having to cram an unusual amount of pathological work into their final years in Vienna.

So this was the discovery of Semmelweiss; that puerperal fever was caused by the poisoning of the pregnant or parturient woman by diseased animal matter. He calls it his "Eternally True Doctrine," and his claim has not yet been shown to be excessive, though bacteriology in later years may have defined the details more clearly, and modern antiseptic measures have provided more effective methods of protection.

The spread of his discovery amongst his professional contemporaries was a very tedious and difficult task, and one for which he was preëminently unfitted. He lacked the patience which was so necessary to cope with the opposition, active as well as passive, which his views provoked, and became involved in long and bitter controversies, which soured him and no doubt hastened the insanity which he developed towards the end of his life. He could be drawn into wearying disputes by the most ignorant and unworthy of his opponents, and they did not fail to take advantage of his weakness. But he had friends who fought well for him, though they were often disheartened by his failure to support them, or even give them credit for their efforts; prominent amongst them was Skoda, whose own hand was somewhat against his professional brethren for the scanty recognition accorded his work on percussion.

Even amongst the students in the hospital there was at first a tendency, produced no doubt by the example set by others, to look on his ideas as fads, and one went so far as to disregard the instructions about disinfection of his hands. There was an outbreak of the fever as a consequence, and the culprit received so terrible and unqualified a reproof from Semmelweiss for his criminal levity that the offence was never repeated.

Such is an outline of the work of Semmelweiss, and for my present purpose it is sufficient, as he added nothing very original in his later years. He died in 1865 with his mind deranged, the immediate cause of his death being from the consequences of an infected finger gained in a gynæcological operation. The poisoning spread to his arm and thence to his lungs, and so death came to him in a familiar shape, even as it had also come to his friend Kolletschka.

The actual work of Dr. Holmes on this subject is soon summed up. In 1843 he published a paper entitled, "The Contagiousness of Puerperal Fever," having, as he says, "looked into the best records I could find and inquiring of the most trustworthy practitioners I knew, to learn what experience had to teach in the matter, arriving at the results contained in the following pages."

As the title of his essay indicates, he demonstrates that the fever may pass from one patient to another, especially if it is provided with an agent in the person of the attending doctor, and that is the sum and substance of the paper. How valuable such a demonstration was then will be recognized when one considers that many of the best teachers of his day taught and were perfectly convinced of the fact that the fever was not spread in this manner. It would be superfluous to dwell on the results which would, and did, follow such teaching, and so the influence of Holmes's writings in at least opening the eyes of the profession to the risk of spreading the fever, was of priceless worth.

But there is a literary side to the essay which, of course, one would look for in the work of the author of "The Autocrat"; it is found in the clearness and vigour of the style, the orderly marshalling of the most essential facts, in the warm-hearted sympathy with suffering, sympathy which brought down his scathing denunciations on those who, by their disregard of the knowledge and experience of others, were the source of disease and death.

He had not, however, the clear and definite conception of the cause of the fever that Semmelweiss had; it was hardly possible that he should, for at best his knowledge was only gathered from others; he had not grappled with the problem as Semmelweiss had, in the ward and on the *post-mortem* table. And that is the difference between the work of these two men. Semmelweiss gave his whole life to it, observing and thinking for himself; Holmes used his literary powers to concentrate effectively the scattered, and to that extent weakened, labours of others.

Case Reports

OMENTAL CYSTS

AT the Canadian Medical Association meeting held in 1905, a case of mesenteric cyst¹ was reported by the writer. Recently a cyst of the omentum has come under his observation, and the following is a report of the case:

A negro, W.J., was admitted to the St. John General Hospital on the evening of January 26th, 1910, suffering from an acute abdominal condition which was thought to be probably appendicitis.

The patient was a strong, well-grown man, twenty-two years of age, who was born in Antigua, West Indies, where he had lived all his life except the last two years, which had been spent in St. John, his occupation being that of a mill labourer.

The previous history of his health was most satisfactory, as he had had no illness of any moment, no injury, nor had he suffered from abdominal pain or discomfort; he had not observed any lump nor area of tenderness in the abdomen.

On January 24th, while he was turning over in bed preparing to getting up to go to work, he felt a pain on the right side of the lower abdomen; upon standing up the pain increased, and he was soon compelled to lie down again. His suffering continued, necessitating his remaining in bed until his admission to the hospital on the 26th, two and a half days after the onset of illness. There had been no vomiting, and the bowels had moved naturally. On admission to the hospital, his temperature was 101·8°, pulse, 100; the abdomen was painful over the right lower quadrant and there was rigidity, especially over this area, but no mass was palpated. The condition of the chest and urine were normal.

Soon after admission the abdomen was opened in the right iliac region and a small amount of free peritoneal fluid escaped. The appendix was found to be elongated and contained faecal material. It was removed. To the inner side of the caecum a dark-red tumour was found, which evidently contained fluid. It extended well upwards. A small area of the peritoneum, covering

¹Read before the Canadian Medical Association by Murray MacLaren, M.D., M.R.C.S., St. John, N.B.

the caecum was thickened, no doubt due to contact with the cyst. The incision was closed and a second opening was made through the right rectus muscle for about two inches above and two inches below the umbilicus and the tumour was turned out. It was found to be a cyst of the omentum, about five and a half inches long, and resembled the heart somewhat in shape, colour, and appearance, as distended vessels of the omentum ran over it. The upper border of the cyst was near the greater curvature of the stomach on the right side.

It was removed by placing a series of ligatures on the omentum and cutting away the tumour. The cyst was situated within the folds of the omentum, and its contents consisted of a yellowish serous fluid, blood-stained, and some blood clots. There was no pedicle. No torsion of the tumour was noticed when it was withdrawn from the abdomen, although it might have been present. The abdomen was then closed in the usual manner. The patient made an excellent recovery and was discharged from the hospital twenty-four days after the operation.

Dr. A. G. Nicholls, pathologist to the Western Hospital, Montreal, examined the cyst and reports as follows:

"The material, as received for examination, had been preserved in formalin solution. It consisted of one main cyst, five and a half inches long by three in depth, by three in the antero-posterior diameter, to which were attached one or two tags of a thin, only slightly fatty, omentum. The omentum itself appeared to be normal. The cyst was situated in the substance of the omentum; the surface was smooth, presenting numerous vessels and thin, scanty deposits of fat, recalling an attenuated omental tissue. On cutting into the sac, the interior was smooth, somewhat mottled with dark grayish patches (presumably areas of blood pigmentation, modified by the action of the preservative) with one or two shallow prominences or thickened patches, recognizable mainly by touch. Over a considerable portion of the inner surface of the wall was a membranous deposit of friable character and yellowish-white colour, which stripped off readily in thin sheets. The wall of the sac was for the most part quite thin except at one place, where the thicker tissue contained a subsidiary cyst the size of a walnut and some dilated vessels, one of them thrombosed. At one portion of the wall, also, a small cavity was found having a distinct fibrous wall and containing red blood clot.

"Microscopic sections were made through the wall of the cyst in three different places, namely, through the thin part, through

two of the flattened nodes, through the thickest portion of the wall containing the dilated vessels, and also through the white membrane.

"The wall of the cyst was composed of omental tissue, modified only to the extent that the component tissues were compressed and consolidated. There was no evidence of a lining epithelium. There was, however, some evidence of inflammation in that the vessels were dilated and congested and there was a moderate amount of round-celled infiltration. The thicker areas which were examined showed omental substance with thrombosed vessels. There was considerable blood pigment also lying free and in the cells. One or two clusters of bacteria (probably cocci) were also detected. The white membrane proved to be fibrin in which a few leucocytes were entangled.

"The cysts of the great omentum are cystic lymphangioma, dermoids, parasitic, gas cysts, hæmorrhagic, serous, and chylous cysts. The first four can certainly be excluded. The history and previous examination of the case would assist in determining the presence of serous or chylous cysts.

"Owing to the fact that blood pigment was present in the wall of the cyst and that there was a deposit of fibrin and leucocytes within it, I would conclude that the cyst in question was a hæmorrhagic one which had undergone a slight amount of secondary and reactionary inflammation."

From this report it will be noted that the cyst wall was not a true capsule, but was made up of compressed and consolidated tissue, as might be expected in such cases of hæmorrhagic origin.

Dr. Nicholls states that the hæmorrhagic cysts are due to the occurrence of massive hæmorrhage into the loose substance of the omentum. This produces at first a tumour-like mass known as hæmatoma. The most frequent cause of this appears to be inflammation of the omentum (epiploitis), which is usually secondary to inflammation of the peritoneum or some of its contained viscera. Appendicitis and salpingitis appear to be of the most importance in this connexion. The explanation probably is that the inflammation leads to congestion and œdema of the omentum, followed by fatty degeneration or necrosis of the vessel walls, and subsequent rupture. After a time the pressure leads to the formation of an area of condensation around the mass or pseudo-wall. Then the blood is gradually absorbed, the pigment carried off, and a clear, somewhat brownish or blood-stained fluid left. Other causes of the formation of blood-cysts are hæmorrhages into areas of fat-

necrosis (in cases of pancreatitis), tumours, and hæmophilia. There is nothing, however, to indicate the presence of any of these causes of omental hæmorrhage in this case, nor is there a history of distinct trauma.

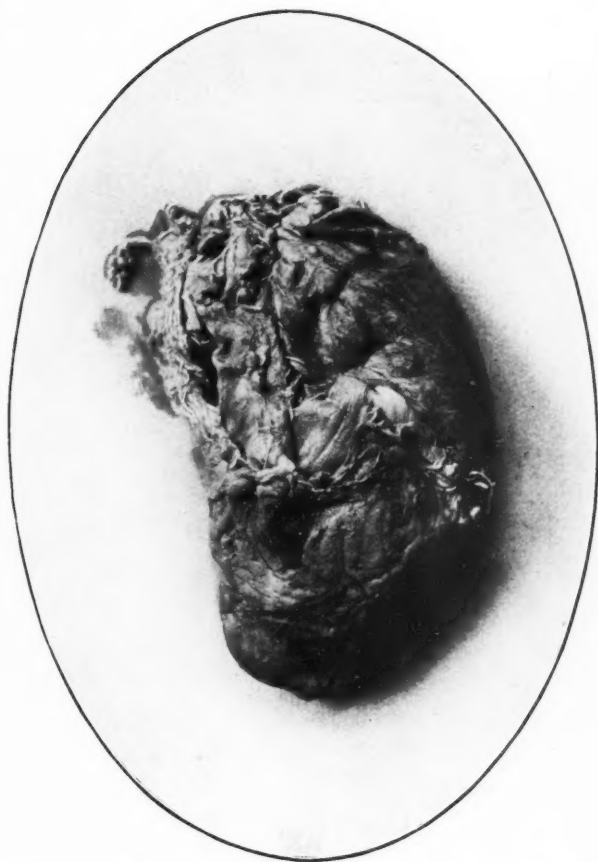
The man's occupation consisted of lifting and carrying bundles of wood in his arms, and necessarily there would be frequent knocks on the abdomen, which might account for the origin of the cyst. This, however, can only be a matter of conjecture.

In several reported cases of omental cyst there is a history of trauma. Cotman² has reported a case of hæmorrhagic omental cyst following an injury: The man while riding a bicycle had received a severe blow on the abdomen from the shaft of a cart. At the operation, the cyst, which contained acid-smelling fluid, was found to communicate with the stomach. The communication with the stomach was probably secondary to the formation of the cyst.

The sudden attack of pain in the abdomen, as my patient turned over in bed, followed by elevation of temperature and evidence of secondary inflammation, may have been brought about by torsion of the cyst, although it was not observed at the time of operation.

Omental cysts are rare. They occur at various ages, those in young children being regarded as congenital. They are more common in females than in males. Fort,³ in a review of the subject, found twenty-one reported cases, his own making twenty-two. According to Hasbrouck,⁴ true cysts of the great omentum are those which lie entirely within its folds and not those which may be attached to and are external to it. An escaped ovarian cyst which may become attached to the omentum cannot, of course, be considered a true omental cyst. Hasbrouck found thirty-four reported cases of cysts of the great omentum, but excluded a number of these on the ground that they were attached to the omentum by a pedicle or otherwise, and were not contained within the cavity of the omentum. Under this classification, his case forms the twentieth reported. The first case of omental cyst was reported by Gardnèd in 1852.

It is rather striking that the occurrence of cysts of the omentum is not of much greater frequency, having in view its anatomical structure and position, forming as it does a large serous sac and lying immediately behind the anterior abdominal wall. This sac, therefore, one might suppose, would frequently become distended from inflammatory conditions within the abdomen or from injuries



Cyst of Omentum Hæmorrhage in origin. To illustrate Dr. MacLaren's article.

to the abdominal wall, but such is not the case. With tubercle scattered over the intestines and omentum and a copious collection of free fluid in the abdominal cavity, the omental sac does not become distended with fluid.

To partly account for this one may bear in mind that in the adult life the folds of the omentum frequently more or less blend, and to some extent obliterate the sac, and that one function of the omentum is to absorb abdominal fluids, leucocytes, and bacteria.

The symptoms produced by such cysts are variable. It may be generally stated that, while of small size, they give rise to few or no symptoms, as is the case with ovarian and other cysts. It is when they become enlarged that symptoms arise, caused by the mechanical effects of pressure or, sometimes, by the development of secondary inflammation.

References:

1. MACLAREN—*Mont. Med. Jour.*, December, 1905.
2. COTMAN—*Brit. Med. Jour.*, May 24th, 1902.
3. FORT—*Annals of Surgery*, March, 1907.
4. HASBROUCK—*Annals of Surgery*, August, 1908.

I SHOULD like to ask if any other medical man has found these results from diphtheria antitoxin. My experience was with three cases, females aged nineteen, fifteen, and eleven, the first having had an injection of antitoxin about nine years previous. The different cases had received one thousand units preventative, two thousand curative, and five thousand curative. About five hours after the injection they complained of intense pains in the region of the heart; and the parents expressed the fear that the children were going to die. I had an opportunity of seeing the first case. Symptoms began about five hours after the injection and lasted three or four hours. There was some rash about the time the heart symptoms began. Patient would cry out with fear and pain, and clutch any near object. Pulse was one hundred and thirty and over. Attack would last about five minutes, and in the intervals there was comparative comfort, but rapid pulse. Patient was not hysterical, and was perfectly rational between attacks. Attacks recurred every few minutes. In about three hours the severity lessened and patient fell asleep. Next day she was feeling well with the exception of the rash, which lasted for about thirty-six hours. With the same lot of serum three others developed a severe rash, about five hours after the injection, which lasted from twenty-four to thirty-six hours.

Jacquet River, N.B.

R. L. ELLIS.

Editorial

MEDICAL JOURNALISM IN CANADA

DURING the first half of the nineteenth century efforts had been made to establish medical periodicals in Canada. The names of those who inaugurated medical literature in Canada are, Tessier, of Quebec; Badgley, Sutherland, Hall, and Macdonnell, of Montreal. These were the pioneers of medical journalism in Canada.

The first of these journals was published in 1826 at Quebec. The honour for its first venture is due to Dr. Tessier. The journal was called *Le Journal de Medecine de Quebec*, and was published from January to October, 1827; owing to the death of the editor, Dr. Tessier, one volume was all that was published.

It was not until seventeen years had elapsed that the second attempt at medical journalism took place, when *The Montreal Medical Gazette* was issued by Dr. Francis Badgley and Dr. William Sutherland. Dr. Badgley's name was at that time prominent in the medical profession, and it was largely through his efforts that the medical profession in Montreal, after seventeen years, followed the example of their *confreres* at Quebec and formed themselves into a society. Later, he was instrumental in forming the county societies, and he succeeded in inducing the various medical institutions to send in their reports for publication in his journal. He also was the chief mover in forming a second medical school in Montreal, the Montreal School of Medicine and Surgery. When Dr. Badgley commenced the publication of his journal there was but one chartered medical school in Canada; there were no medical societies; and no medium of expression and

communication for medical men. Dr. Sutherland and Dr. Badgley taught in this school.

The journal appeared on April 1st, 1844, and though it had a brief existence, namely, from April 1st, 1844, to May 1st, 1845, it had already received flattering notices in the English and American journals. Throughout the various numbers the well-known names of Drs. Crawford, Arnoldi, Scott, and others, appeared. Although Dr. Badgley called it an independent paper, both editors were teachers of the new schools, which could not but bias the tone of the editorials, and this hastened the advent of a second journal, which was called *The British American Journal of Medicine and Physical Science*. Dr. Hall, lecturer on chemistry in the medical faculty of McGill University, was editor, and associated with him was Dr. R. L. Macdonnell, lecturer in institutes of medicine.

Dr. Hall was a man of good judgement and culture, and fearless in uttering what he thought was right. Dr. Macdonnell had been for many years the editor of *The Dublin Journal of Medical Science*. With the publication of the second volume, Dr. Macdonnell retired from the editorship, although he continued to write for the journal. The first number of his new journal was circulated in Montreal on Saturday, May 19th, 1845. On the publication of this new journal *The Montreal Medical Gazette* ceased publication. Although Dr. Hall had given his services to the journal free, yet, like most of the Canadian medical journals, it had by the end of five years fallen deeply into debt, partly through non-payment of subscriptions.

Dr. Badgley, who had become one of the contributors to Dr. Hall's journal, urged the formation of a medical association for the province, based upon that of the Provincial and Medical Association of England, which, for the small subscription of one sovereign, would furnish to each of the members a copy of *The Provincial Medical and Surgical Journal*.

Dr. Hall edited *The British American Journal of Medical and Physical Science* for seven years; by the end of that time he was obliged to give it up owing to financial difficulties. If Dr. Badgley's scheme had been carried out at the time, there is hardly any doubt that Dr. Hall would have continued to edit the journal. But it was not until the year 1867 that Dr. Badgley's project in part was successfully carried out. It was at a meeting held in Quebec, in Laval University, that a Provincial Medical Association was formed. The first meeting was held in Montreal in 1868 with Dr. Tupper as president.

Another journal was started in 1852 by Dr. Macdonnell and Dr. David, called *The Canada Medical Journal and Monthly Record of Medical and Surgical Science*. It ran for a year, and was followed in 1865 by a journal of the same name, edited by Dr. Fenwick and Dr. Campbell. Eight volumes of this journal were published. The next journal was *The Canada Medical and Surgical Journal*, edited by Dr. Fenwick. Sixteen volumes of this journal were published from 1872 to 1888, when its name was finally changed, in 1888, to *The Montreal Medical Journal*, edited by Drs. Ross, Roddick, and Stewart. This in turn was transformed into THE CANADIAN MEDICAL ASSOCIATION JOURNAL in 1910, and with it was incorporated *The Maritime Medical News*. The present number opens the second volume of the new series.

"NERVE RECURRENCE" AFTER SALVARSAN

NOW that the early stormy welcome to "606" has subsided, and we are able to look upon Ehrlich's work and its results without the "Begeisterung," which threatened to obscure our vision in the beginning, it is well, perhaps, to reassemble our facts and reform our conclusions, lest haply these be found faulty. Here, however, is not the place save in one particular, a particular back of which lies the whole truth of "606" therapy and an answer to all or nearly all

our doubts. This is the question of so-called "nerve recurrence."

By nerve recurrence we understand a sequence of events somewhat as follows. A patient in florid secondaries receives a dose of "606," generally intramuscularly. The signs of disease disappear, but in six or eight weeks the individual is found to be suffering from a paralysis or paresis of one or other of the cranial nerves, generally the second, third, fourth, sixth, seventh, or eighth. This may gradually disappear with or without the aid of further anti-syphilitic treatment or it may remain permanent. This is the "Nervenrezidiv," which, according to Kreibach, holds the centre of the stage in syphilis therapy for the present year. By the increase or decrease in its incidence will "606" therapy wax or wane.

The number of cases published is small, no doubt smaller than the actual facts, and the largest series appears from Finger's Clinic, where "606" has never been enthusiastically welcomed. It is worth emphasizing that these cases occur only in secondary syphilis and chiefly after intramuscular injections.

In seeking an explanation there are obviously three possibilities. These changes may be due to "606" or to syphilis or to both. It is significant that, in spite of the great number of cases treated by "606" during the past year and a half or two years, but few cases have shown this type of lesion, and that very large doses of "606" in animals have failed to produce an arsenical neuritis. This would argue against the nerve recurrence being a pure "606" intoxication product.

It is further significant that these cases occur almost without exception in secondary syphilis of the active florid type, that they are in most instances cured by mercury or potassium iodide or, more important, a second dose of "606." It is even stated (Fehr) on good authority that two to three per cent. of patients suffering from secondary syphilis show changes in the eye grounds, and Rille states that affections of the ear are even more common. It is not unlikely, therefore, that "606" has nothing to do with these lesions, and

that merely because we now pay more attention to the condition of the eyes and nervous system generally, as a result of atoxyl blindness and Ehrlich's warning, we find these changes where formerly we overlooked them. Yet "606" may not altogether be blameless. Whatever the reason advanced, these cases are more frequently noted than formerly. Some do not improve with antisyphilitic remedies; they occur, as already noted, after intramuscular and not after intravenous injections, therefore, in those cases where the arsenic is but slowly absorbed over a prolonged period. Arsenical neuritis and atoxyl blindness serve to show how prone arsenic is to attack the nervous system.

A cautious man would say that "606" injures the nerve or nerves and that the spirochæte attacks this *locum minoris resistentiæ*. Inasmuch as the nerves involved are those which traverse bony canals, a tempting hypothesis is to consider that the drug fails to reach the intracranial part of the nerve and in consequence spirochæte escape and later increase and injure the nerve.

The truth evidently lies deeper than the surface. To draw a conclusion from such a contradiction of facts is difficult, but the facts alone are well worthy of note. Lesions of the cranial nerves in secondary syphilis are much commoner than we have so far supposed, and this is irrespective of therapy, but inasmuch as the increase in reported cases has been so great since the free use of "salvarsan," this drug may have some connexion with that increase. Most cases improve with or without the further use of "606"; these are probably purely the result of syphilis. Some do not; these are perhaps the result of arsenic.

So runs the argument. Such, in the main, is the sum total of some one hundred and thirty-four papers published during the last year and dealing with "606" and the nervous system. Whatever the case may be, it is the first strong argument against "salvarsan," and one which, on that account, deserves to be kept before us in the everyday treat-

ment of syphilis, and demands the more general examination of the cranial nerves before administering this drug.

SIR SAMUEL WILKS

THAT wonderful old hospital, Guy's, with its rich traditions of the past, with its long list of honoured names, has this last month added another illustrious name to its roll of departed workers. By the death of Sir Samuel Wilks, which occurred November 8th, in his eighty-eighth year, the profession has lost another of its lights. All the old Guy's men will mourn the loss of Sir Samuel Wilks, for Guy's hospital was to him a passion; he was proud of the splendid work his hospital had done, and in the Reports of the Hospital from 1836 to 1886 is recorded much of his life work. When in 1897 a complimentary dinner was given to him on the occasion of his being made a baronet, over three hundred old Guy's men came from all parts of the country to attend it. So great was the enthusiasm displayed that Sir Samuel Wilks was greatly stirred by emotion when he rose to return thanks to his many hosts.

Sir Samuel Wilks was a great personality to the very end. No man can for long hide his true character from the keen eyes of his fellow-workers. Sooner or later they will find him out. In all the recent biographical notices of Sir Samuel Wilks the keynote sounded is the intense admiration and love he inspired, a high respect for his honesty, and his scorn of humbug. He was no self-seeker; he abhorred advertising. The idealism of medicine was real to him: "Medicine at the best," he said, "was a high intellectual pursuit." Striving for money was distasteful to him. His simplicity of character held nothing small, nothing even remotely underhand was in his nature. The immense amount of valuable work which he accomplished during his lifetime is shown by the valuable bibliography prepared and published by the editors of *Guy's Hospital Gazette*.

OPEN-AIR SCHOOLS

THE new movement in bettering the condition of sickly children, which is now attracting the attention of educators in Great Britain and the United States, was first started seven years ago in the suburbs of Charlottenburg, near Berlin. The object of the founders was to have a school where children could be cured and taught at the same time, and the children selected were those who were not strong enough to keep up with the other pupils attending the schools. Although this movement of the open-air schools was not designed for the use or the treatment of tubercular children, it has now been taken up by the tubercular section of the Massachusetts Medical Society. At the June meeting there was held a symposium on the subject of outdoor schools and open-air rooms for children. The meeting was largely attended by superintendents of schools and others interested in the subject. Prior to this meeting a circular letter had been sent out by the tuberculosis committee of the Massachusetts Medical Society to members of the associated committees, Massachusetts school superintendents, and Boston school physicians, as to the development and management of fresh-air rooms and outdoor schools. Of two hundred answers to the letter one hundred and ninety-six were in favour of such rooms.

The need of open-air rooms in all school buildings is now pretty generally recognized, not only in Germany, but in England and the United States. It is more and more evident that all systems of artificial ventilation are not what they should be. Of the places where fresh air is needed, the school is probably the most important. There children are crowded together for hours at a time. In every large school there are a number of tuberculous children, with the disease either in the lungs or in some part of their body. There are, likewise, in every school a number of children generally described as "delicate." With the diseased

children removed from the crowded school-room to the open air, the healthy children are less exposed to the dangers of infection. The fresh-air school is as yet in its infancy, but its success has been so marked and its possibilities are so great that no school should be without its open-air rooms.

PUBLIC HEALTH ASSOCIATION

THE first meeting of the Canadian Public Health Association, which was held in Montreal, December 13th, opened auspiciously in the presence of the Governor-General, Mr. R. L. Borden, Sir Lomer Gouin, the premier of the province of Quebec, Mr. Martin Burrell, the minister of agriculture, and Dr. Guerin, mayor of Montreal. In his reply to an address the governor-general urged the necessity of such an association in the face of the epidemics of typhoid fever, diphtheria, and small-pox, which were continually recurring, and of the enormous infant mortality in the cities. Mr. Borden informed the meeting that it was the purpose of the government to give earnest consideration to the problems with which the Association was immediately concerned, and he realized the necessity of co-operation between the Dominion and provincial governments to prevent the pollution of water supplies. Mr. Burrell led the Association to believe that the Dominion government would soon have a fully equipped department for dealing with matters of public health, to co-ordinate the work which was being done by the federal, provincial, and municipal authorities. Sir Lomer Gouin announced that his government had plans in readiness for the dividing of the province into ten districts which would be under the supervision of specialists in hygiene. These, he said, would be chosen from the English and French universities. He also expressed the hope that he would in a short time be able to announce the establishment of several hospitals for the treatment of tuberculosis. The papers which were

read during the succeeding days of the meeting all bore upon the work of the Association, and those who laboured so diligently for its establishment may be well satisfied with the results which have come so quickly.

If the papers read at the various meetings are acted upon, there are prospects for a better condition of public health matters in Canada. The great need of to-day is to popularize interest in the public health; and it is such meetings as these which have just closed their first congress, which will keep alive some general interest in sanitation and will also remind the public of facts worthy of its attention. In these days we are hearing a great deal about epidemics, we have newspaper articles and lectures about these various epidemics which occur in the great cities of the Dominion. Ottawa has scarcely recovered from the severe typhoid epidemic which swept that city in the early part of the year, and resulted in over one thousand people being stricken down, when the health authorities have to deal with a small-pox epidemic. Montreal, with its dirty streets and ill-kept lanes, is not much better from a sanitary point of view. Many of the tenements in the poor districts are as overcrowded as when Osler cited the local outbreak in 1877 in the House of Refuge, where the overcrowding was so great that at night there were not more than eighty-eight cubic feet of space to each person. The city dust is notorious. Yet it would seem as if the people took no notice of dust, or that dust should be removed without being disturbed. One of the greatest sanitary problems now before our authorities is city dust. There is not only now the dry and windy days of fall to contend with, but the constant passing of rapid moving automobiles over a dry, uncleaned area, stirs and sets loose bacteria in the air.

The subject of preventive medicine is as yet in its infancy, but it is receiving greater attention to-day than ever before, not only from physicians but from the laity as well. In Montreal, the two universities, McGill and Laval, are giving special courses on public hygiene. It is generally

recognized that this special training is absolutely essential for all inspectors of public health, and it is of the utmost importance that a full and complete knowledge of all matters dealing with this subject be taught in every medical school, and that inspectors should be carefully selected.

IN an editorial entitled, "The Quebec College," in the December number of the JOURNAL the cost of auditing the books of the College of Physicians was given as two "thousand" dollars. It should, of course, have been two hundred.

THE National Sanitarium Association has created a medical staff consisting of Drs. H. B. Anderson, W. P. Caven, J. T. Fotheringham and Harold Parsons. These physicians will visit the institution under the association's control at fixed dates, and it is expected that their co-operation will greatly strengthen the future medical administration.

WE take pride in saying that a new department has been added to the JOURNAL under the title, "Men and Books." It will be conducted by Sir William Osler, and will contain bibliographic and biographic notes of passing interest. This great service is further proof that this distinguished writer and physician still cherishes his Canadian friends. To those who are interested in the intellectual aspect which medicine presents, these notes are bound to yield profit in the pleasure which they will give.

MONTREAL is ringed round with small-pox. The disease exists in nearly every neighbourhood, and occasional cases crop up in the city itself. What makes the situation more alarming is that the type of the disease is very mild, and this absence of immediate danger is the worst danger of all. These

mild epidemics have a habit of blazing up in fury, no one can tell why. Since the great outbreak of 1885 a new generation has grown up, which is only very imperfectly vaccinated, and the material is ready for a fresh epidemic. This is a business which falls within the duty of every physician in his private capacity. The health authorities are doing much, but they cannot do all without the help of the practitioner.

BLACK antimony and canned corn are considered in two recent bulletins from the laboratory of the Inland Revenue Department at Ottawa. No. 226 deals with canned corn. Of one hundred and forty-six samples purchased throughout Canada in the months of March, April, and May, 1911, all were found to be in an excellent condition of preservation. In weight and in the character of the contents of the cans there was great uniformity, which suggests that the work of canning this food product is carefully and systematically conducted. The chief points to be noted in this report are the frequent presence of acid sulphite of lime and the use of a non-sugar sweetener, usually saccharin, in many samples. The acid sulphite was found in 50 per cent. of the cases inspected; saccharin in 20 per cent. As sulphurous acid can exist only in minute quantities when the corn is ready for the table, and as saccharin, in the amounts used in the samples, has not conclusively been proved dangerous to the health of the consumer, the report recommends that when either is used a statement of such fact shall appear on the label. Bulletin No. 225 shows that of the samples of black antimony examined, 50 per cent. were adulterated, 27 per cent. containing no antimony at all. It was evident from the adulteration—metallic iron, silica, and carbon (graphite)—that the manufacture in many cases was knowingly fraudulent.

Book Reviews

DISEASES OF THE STOMACH AND UPPER ALIMENTARY TRACT. BY ANTHONY BASSLER, M.D. Illustrated with half tone and line text engravings and 56 full-page half tone plates, plain and in colours, from original photographs and drawings, pp. 836. F. A. Davis & Co., Philadelphia.

This important book which was noticed in the June number of the JOURNAL has for a variety of reasons gone unreviewed until the present moment. This delay is of less importance in the case of a book such as this, which is of permanent value, than it would be in the case of a book whose value was only temporary. "Bassler on the Stomach" has a general air of authority. It contains over eight hundred pages. It is copiously illustrated with text engravings and plates in half tone and in colour; and all the illustrations are from original drawings or photographs. Also, Dr. Bassler writes as one having authority in this most complex division of medicine, which is, as the author says in the preface, so indissolubly connected with the broader field that it can never be established as a branch apart. There is everything of value in the book which is in any other book, and much else besides. The section which deals with the use of Roentgen's rays in diagnosis, and with gastroscopy and œsophagoscopy, illustrated as it is with clear and even beautiful plates, will perhaps be considered the most important as it is also the newest. By every test which we have been able to apply to this book, by reason of what it contains, as well as by reason of what it does not contain, proves itself to be one of which the profession will profit much. It is not merely made: it is written by a writer, and illustrated by artists.

SENSIBILITY OF THE ALIMENTARY CANAL. By ARTHUR F. HERTZ, M.A., M.D. (Oxon.), F.R.C.P. 83 pages. London, Oxford Medical Publications. Toronto, D. T. McAinsh & Co., 1911. Price, \$1.50.

This book is a reprint, with certain additions, of the Goulstonian lectures as they were delivered in March before the Royal College of Physicians, and published in the *Lancet* in April and May. A division in the chapters has been substituted for the original

divisions in the lectures. The conclusion at which Dr. Hertz arrives is, that the alimentary canal from the commencement of the œsophagus to the junction of the rectum with the anal canal is completely insensitive to tactile stimulation. This simple thesis is elaborately worked out with ample reference and fine literary skill. Quite apart from the information contained in the book the reading of it is a pleasure.

THE CONQUEST OF NERVES. BY J. W. COURTNEY, M.D. The Macmillan Company, New York, 1911.

Dr. Courtney follows the practice which is now so common amongst writers upon medical subjects, even the most technical, of dedicating their books to their wives. The book itself is a pseudo-scientific compendium, of much dullness in spite of the fine language in which it is written. Any writer is bound to be dull who permits himself to give advice upon so trivial a matter as the clothes which one should wear when he is walking: "The clothing worn on these walks should be appropriate to the prevailing weather conditions, and so fashioned that the freest possible motion is allowed to both legs and arms."

CLINICAL SYMPTOMATOLOGY. BY ALOIS PICK, Professor of Medicine, University of Vienna, and ADOLPH HECHT, Pediatrician, St. Anne's Hospital, Vienna. Translated under the editorial supervision of KARL KONRAD KOESSLER, M.D., University of Vienna. 833 pages, price \$6.00. New York: D. Appleton & Co. Toronto: D. T. McAinsh & Co., 1911.

This citation which we have made from the title page is in itself sufficient to indicate that we have to deal with an important book. The matter of it, however, is not confined within the somewhat narrow limits of symptomatology, as treatment appears to receive almost equal consideration, and prescriptions abound throughout the book. The volume is divided into twenty-four chapters. General symptoms are first described, then the disturbances of the heart action; disturbances of respiration; pain in the chest; cough; the sputum; vomiting; disturbances of indigestion; examination of the stomach contents; disease of the intestines; examination of the abdomen; hæmorrhage; examination of the blood; dropsy. In the somewhat more general class, the authors consider the severe general infections; autointoxication; headache; loss of consciousness; sleeplessness, and vertigo. The book is a masterly compendium of medicine as it is practised and taught in Vienna.

A HANDBOOK OF MEDICAL DIAGNOSIS IN FOUR PARTS. By J. C. WILSON, A.M., M.D. Third edition, 418 illustrations, 14 plates. J. B. Lippincott Company, Philadelphia and London, 1911; Charles Roberts, Montreal.

This book is the third edition of Dr. Wilson's work. It contains three prefaces; the first written in September, 1909, the second in March, 1910, and the third in June, 1911. Accordingly, three editions have been demanded in less than two years; and when three editions of a book containing over fourteen hundred pages are exhausted in a short time that book must have merit. Much of the present volume is new. The articles upon epidemic anteropoliomyelitis, beri-beri, pellagra, typhus fever, and relapsing fever, have been rewritten. Brief new studies of tabardillo, which is the spotted fever of the old writers, and Brill's disease have been introduced; and many sections have been recast and enlarged. Dr. Wilson is professor of the practice of medicine and clinical medicine in Jefferson Medical College, and physician to its hospital. He is also physician to the Pennsylvania hospital, and the book may be taken as the expression of the best thought of the Philadelphia school.

CLINICAL DIAGNOSIS. A text-book of clinical microscopy and clinical chemistry. By CHARLES PHILLIPS EMERSON, A.B., M.D. Third edition; 742 pages, illustrated. J. B. Lippincott Company, Philadelphia and London: Charles Roberts, Montreal.

This handsome volume comes to us from Messrs. Lippincott. In type, paper, and binding it is a comfort to the eye and a temptation to read. The work is a product of the Baltimore School; indeed it is dedicated to William Osler, M.D., and the author was himself a pupil and assistant of that master in medicine. This is the third edition, and in the three prefaces, which are quite properly included, the progress of the work is indicated. The first was composed in 1906, and is tinged with that taste and feeling which is always the mark of good writing. The book, we are told, arose out of the course of study which is followed in Johns Hopkins, and the object of the course itself is not so much to impart knowledge as to raise the efficiency of the student. The preface to this edition bears the date, May, 1911, and is really a delicious bit of writing, as it records the history of clinical chemistry since those days, fifteen years ago, when it was literally revelling in its wealth of

"new discoveries," until the present, when the patients are enjoying peace whilst the hospital chemist and his students are eating their own test meals and studying their own metabolism to find out just what the "normal" really is. The "general chemist," like the general practitioner, is coming into his own again. The first edition contained an introduction by Dr. Osler, and it also is reproduced. It reminds us that it was Dr. Emerson, who, in 1900, in succession to Dr. Lazear, organized those clinical courses which have made Johns Hopkins so famous. Of the book itself we need only add that it is in large measure new; it contains all that is reasonably certain, and describes all methods which have been well tested; it does not aim to "mention" work merely because it is "recent." The book is "written" out of the author's own mind, it is not merely made; and this comment will serve better than any formal "review" to indicate the high esteem in which we hold it.

SUGGESTIVE THERAPEUTICS, APPLIED HYPNOTISM, PSYCHIC SCIENCE.

By HENRY S. MUNRO, M.D. Third edition, revised and enlarged. C. V. Mosby Company, St. Louis, Mo., 1911. Price, \$4.00.

The place which this book is likely to occupy in the world of thought is well indicated in the dedication: "To the memory of my mother, whose beautiful example and most frequent suggestion, 'Be sure you are right and then go ahead,' has given to my life whatever dynamic quality characterizes this book." Certainly the author has gone ahead; but we cannot affirm that he has been equally dutiful in being sure that he was right. Dr. Munro has all the enthusiasm of an apostle. "For eight years," he tells us, he "toiled, and plodded, and prayed . . . by making a personal canvass from office to office . . . organizing groups of physicians to witness the demonstration and elucidation of practical methods of the employment of suggestion." The most obvious results are obtained from the use of suggestion whilst giving an anæsthetic, and the experience of those two excellent women, Alice Magaw and Miss Henderson, is quoted. Their practice is to "talk the patient to sleep." Our own experience is that "psychotherapy," when employed indiscriminately outside the field of nervous and mental diseases is very apt to pass into charlatanism and quackery. "The theory of dormant reserved subconscious energy, and the practical methods of its utilization in heightening the resisting powers of the individual," the author says was taught by him as far back as 1899. It is proper to add that this is not a fresh discovery. It is

much older even than the days of Marius the Epicurean. Those who believe in therapeutics by deception will find much temporary comfort in this book; but they will come in time to realize "what a tangled web they weave, when first they practise to deceive."

ELECTRICITY, ITS MEDICAL AND SURGICAL APPLICATIONS, INCLUDING RADIOTHERAPY AND PHOTOTHERAPY. By CHARLES S. POTTS, M.D., University of Pennsylvania, with 356 illustrations and six plates. Lea & Febiger, Philadelphia and New York, 1911.

The author of this book lays claim to a new method. "Instead of devoting one section exclusively to the constant current, another to the static current, and so on," he tells us that he "has grouped these modalities according to the effects produced." The term, "modalities," apart from metaphysics and logic, is a new one to the present writer, and readers are always suspicious of a book upon medicine in which a pseudo-philosophical jargon is employed. If the author meant "methods," he had much better have said so. This question of terms is not unimportant, since words really have a meaning and confusion of words means confusion of facts. The author protests, too, that "this method is scientific, instead of empirical," forgetting that all science is empirical, that is, based upon experiment and observation. The book itself is the most comprehensive which has yet appeared in English upon electricity in its medical aspects. The first section, which is devoted to electrostatics, the electric current, electro-magnetism, and the applications of electro-magnetic induction, contains an accurate account of these phenomena, such as may be found in any good text-book designed for the use of elementary students; and yet from the few pages devoted to the alternating current, for example, only the vaguest possible notion could be obtained. Upon the uses of electricity in medicine the book is more authoritative, but the author contents himself rather with a record of procedures than with a criticism of their value.

FOOD VALUES. By EDWIN A. LOCKE, A.M., M.D., Instructor in Medicine, Harvard Medical School, (1911); 100 pages, cloth, \$1.25. New York: D. Appleton & Company; Toronto: D. T. McAinsh & Company.

We desire to call special attention to the tables of values which this book contains. This information is often desired, and has not hitherto been readily accessible.

Books Received

A MANUAL OF FEVERS. By CLAUDE BUCHANAN KER, M.D. (Ed.), F.R.C.P. (Ed.). London: Oxford Medical Publications; Toronto: D. T. McAinsh, 1911.

EMERGENCIES OF GENERAL PRACTICE. By PERCY SARGENT, M.B., F.R.C.P., and ALFRED E. RUSSELL, M.D., F.R.C.P.; second edition. London: Oxford Medical Publications; Toronto: D. T. McAinsh & Co., 1911.

TUBERCULOUS DISEASES OF BONES AND JOINTS. By SIR W. WATSON CHEYNE, BART. London: Oxford Medical Publications; Toronto: D. T. McAinsh, 1911.

FOOD VALUES. By EDWIN A. LOCKE, A.M., M.D. D. Appleton & Co., New York and London, 1911; 110 pages; price, \$1.25.

RECENT STUDIES OF SYPHILIS, WITH SPECIAL REFERENCE TO SERO-DIAGNOSIS AND TREATMENT. Medical Symposium Series No. 1. Second edition (revised). A Reprint of Articles published in the *Interstate Medical Journal*. Paper, 212 pages. St. Louis: Interstate Medical Journal Co.; price, \$1.00.

RECENT STUDIES OF CARDIO-VASCULAR DISEASES. Medical Symposium Series No. 2. A Reprint of Articles published in the *Interstate Medical Journal*. Paper, 216 pages. St. Louis: Interstate Medical Journal Co.; price, \$1.00.

UBER NEUROREZIDIVE NACH SALVARSAN UND NACH QUECKSILBERBEHANDLUNG. By DR. J. BENARIO. J. F. Lehmanns, Verlag, Munchen, 1911.

DISTRICT NURSING. By MABEL JACQUES. The Macmillan Company of Canada, Limited, Toronto, 1911.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS; Vol. VI., 1911.

THE CARE OF INFANTS AND YOUNG CHILDREN. By A. DINGWALL FORDYCE, M.D., F.R.C.P. (Ed.), 36 illustrations. E. & S. Livingstone, 15 Teviot Place, Edinburgh, 1911.

DISEASES OF THE EYE AND THEIR TREATMENT. By SIR HENRY R. SWANZY, A.M., M.D., D.Sc., and LOUIS WERNES, M.B., F.R.C.S.I. Tenth edition, with illustrations. H. K. Lewis, 136 Gower Street, London, W.C., 1912.

MEDICAL SYMPOSIUM SERIES. (1) Recent Studies of Syphilis, second edition. (2) Recent Studies of Cardio-Vascular Diseases. Interstate Medical Journal Co., St. Louis, Mo., 1911.

ELECTRICITY, MEDICAL AND SURGICAL. By C. S. POTTS, M.D.; 356 illustrations, 6 plates. Lea & Febiger, Philadelphia and New York, 1911.

CASE HISTORIES IN NEUROLOGY. By E. W. TAYLOR, A.M., M.D. W. M. Leonard, Boston, 1911.

CLINICAL DIAGNOSIS. By C. P. EMERSON, A.B., M.D. Third edition. J. B. Lippincott Company, Philadelphia and London, 1911.

HANDBOOK OF MEDICAL DIAGNOSIS. J. C. WILSON, A.M., M.D. Third edition, 418 illustrations, 14 plates. J. B. Lippincott Company, Philadelphia and London, 1911.

DISEASES OF THE DIGESTIVE CANAL. By DR. PAUL COHNHEIM. Edited and translated by DUDLEY FULTON, M.D.; second edition, illustrated. J. B. Lippincott Company, Philadelphia and London, 1911.

TEXT-BOOK OF GYNÆCOLOGICAL SURGERY. By COMYNS BERKELEY, M.A., M.D., F.R.C.P., M.R.C.S., Gynæcologist and Obstetrician to the Middlesex Hospital, London, and VICTOR BONNEY, M.S., M.D., F.R.C.S., M.R.C.P., Assistant Gynæcologist and Assistant Obstetrician to the Middlesex Hospital, London. 720 pages, 392 figures in the text from drawings by VICTOR BONNEY, and 16 coloured plates (1911.) \$6.00. London: Cassell & Co. Toronto: D. T. McAinsh & Co.

Res Judicatæ

CONSERVATION OF THE OVARY

THE ovary, or the female sex-organ, consists essentially of an aggregation of germ cells, which early in foetal life, about the fifth week, make their appearance in the wall of the cœlom, on the mesial aspect of the Wolffian body. These germ-cells are probably not formed *in situ* by any localized metaplasia of the mesothelial somatic cells, which is the older view of their origin. On the contrary, they have probably existed from the earliest stages of the segmentation of the ovum, multiplying with the growth of the embryo, and have at this time become segregated in this situation. They represent in this way the continuity of the germ plasm. So segregated, a structural connexion with their host is determined by the formation and ingrowth of vessels and nerves with their attendant, less differentiated, somatic cells. In this way this aggregation of germ-cells comes to be actually bound together into a compact nucleus or viscus, and so it is that the sex-organ, or sexual gland, is formed. Further changes consist but in cell-mitosis, differentiation, and growth.

At this early stage there is in this organ or gland no recognizable differentiation of sex. The recent work of John G. Clark is of special interest in this respect, as he shows that the earliest appreciable indication of this sex-differentiation is to be found in the differences of blood-supply to the sex-organ; by this difference of blood-supply is the sexual organ first to be recognized as an ovary or testicle.

These primitive germ-cells, or oögonia, as they at first appear, are small, oval cells, with a deeply-stained granular nucleus. They multiply rapidly by mitotic division. According to Louise McLroy, the first differentiation which takes place among them is the formation by some of these cells of a "capsular epithelium," usually designated the "germinal epithelium," the function of which is mainly protective. The greater number of these germ-cells, however, become ranged in rows or columns, like rows of coins, more or less perpendicular to this capsular surface; this arrangement being probably effected by the ingrowing septa of vascular somatic cells from the area of attachment to the host, namely, the hilum. These

cell columns are the so-called Pflüger's tubules, or "cortical cords," concerning the origin of which there has been perpetual dispute. These columns, or cords, are first solid, but later they become tubular, saccular, and convoluted.

The increase in the size of the sex-organ follows simply further inter-growth between these two component parts, the germ-cells in columns or nests growing more deeply inward, while the somatic cells of the host radiate further outward in vascular partitions between them. So is constituted respectively the parenchyma and stroma of the sex-organ.

In the testicle these tubules come to communicate with the Wolffian duct; but in the ovary, though according to Goodall they may extend down to, and even into, the hilum, this communication is not effected, and the ovary remains in the strictest sense a ductless gland.

The early maturation phases of these germ-cells have been carefully studied recently by von Winiwarter, Lane-Claypon, Whitridge Williams, and Louise McIlroy, and chiefly in the embryo of the rabbit, pig, dog, cat, and the human embryo. These researches have shown that in these several mammalian types a similar plan of development is followed: that not only the oöcytes, that is, the cells destined for fertilization, but also the follicle cells, and the numerous interstitial cells of the ovary arise from the oögonia, or primitive germ cells; in fact, that the whole parenchyma of the ovary is derived from this source. The stroma-cells, on the other hand, being as they are somatic cells of the host, are concerned only with support and vascularization.

The oöcytes themselves arise from the primitive germ cells by mitotic division and growth, the chief changes manifesting themselves in the size of the cell and the chromatin distribution in the nucleus. These larger cells increase and multiply at the expense of their fellows, which remain small and are known as "reserve cells," regressive oöcytes, follicle, or interstitial cells. In their further maturation changes these primary oöcytes undergo a long synaptic phase, with only apparent reduction of their chromosome filaments, and reach the stage of the germinal vesicle or resting nucleus only at, or just after, birth. These are the ova, as they exist in the mature ovary.

The later stages of maturation, with true reduction of the chromosome filaments, only take place after extrusion of the oöcyte from the follicle. These stages are brought about by fertilization.

Follicle formation occurs early in the human ovary, before the

fourth month, and the process begins in the deeper, the more highly vascularized, portion of the organ. By means of serial sections Goodall has shown that these follicles are but local dilatations of the Pflüger's columns, now become tubular, and he indicates the sharp parallel that accordingly exists between these oöcyte bearing tubules in the ovary, and the spermatocyte tubules in the testicle. Karyolytic changes with the formation of syncytial masses, a pabulum for the growing oöcyte, are frequently seen in these early follicles, and McLroy asserts that the follicle cells frequently multiply by direct division.

It is estimated that the number of ova in the human ovary at the time of birth is some hundred thousands, and that about half of this number remain at puberty. All of these ova have experienced the phases of early maturation, and the surrounding rapid cell mitosis and cell metabolism, which these phases have instigated. The whole process is one of great cellular activity, the most pronounced in the life-history of the ovary. During this time, the time of greatest activity in the ovary, the primary sexual characters of its host are initiated and developed. Sex becomes definitely determined. And it is only fair to think that during such active maturation metabolism, that the existence of some internal secretion obtains, since after birth when the sex organ is comparatively quiescent, such a secretion or "hormone" is generally admitted. And as, at puberty, the appearance of the secondary sexual characters of the woman depends upon the internal secretion of the ovary, and this is now common knowledge, it is only fair to suppose that in foetal life the development of the primary sexual character depends to some extent upon such sex gland influence. For these two reasons then, the great cellular activity and karyolytic changes which are present in the foetal ovary, corresponding in time to the development of the primary sex characters; and the known influence in early adult life of the comparatively quiescent organ upon the occurrence of the secondary sex characters, it seems fair reasoning to assume for the ovary of the foetus an internal secretion.

The importance of this sex organ, or ovary, is, I think, impossible to over-estimate. In a sense it is the most important in the whole body, though its removal does not mean the loss of life; for, not only is it the primary organ concerned in the reproductive cycle, but it also regulates and controls that complete attainment of development, growth, and function in the individual herself. It so perfects its own generation, while at the same time it prepares

for the next. Supreme individuality is only attained through its influence; and without it, this attainment is never reached, and the individual remains imperfect and incomplete. Moreover, its continual presence is essential to the maintenance of this individual, or sex, perfection; and its removal or disablement, even after maturity is reached, leads inevitably to descent or retrogression.

From the foregoing, sex is best understood as sex influence; an influence exerted in chief part by the sexual gland. Sex is not a single definite impress, stamped at the beginning, upon the ovum or embryo, but rather is it a continuous influence exerted throughout the whole life of the individual. The nature of this influence, it is now recognized, is that of an internal secretion, or "hormone," and its source in the female is the parenchyma of the ovary.

It is now six years since Starling's work on the "Chemical Correlation of the Functions of the Body" appeared. During this time much experimental work upon these so-called internal secretions, or "hormones," has been done. In respect to the secretion of the ovary the following is the present-day summary of our position.

The parenchyma cells of the ovary secrete a substance (or substances) which reacts upon the general body metabolism, and controls especially the nutrition, growth, and activity of the uterus. In the words of Marshall, "this secretion is formed at all times in greater or less quantity, but is produced in increased abundance at certain recurrent periods, when it brings about those conditions of growth and hyperæmia which characterize the pro-œstrous or menstruation processes. . . . After ovulation, which occurs during œstrous, the secretory cells of the ovary show still greater activity, and the cells of the ruptured follicle become converted, largely by a process of simple hypertrophy, into the luteal cells of the corpus luteum." The added secretion of these luteal cells, an increment of quantity, of quality, or of both, determines, as the experiments of Lœb have shown, the raised nutrition of the uterus, which leads to those decidual changes in the uterine mucosa which may ensure the engrafting of a fertilized ovum. When such an engrafting occurs this secretion maintains the nutrition and growth of the placenta till the latter reaches its maturity. The decadent and fibrotic changes which the placenta undergoes during the later months of pregnancy coincide with the regression and disappearance of these luteal cells. Thus the ovary, while maintaining a perpetual secretion, undergoes a series of cyclical changes which increase or modify this ordinary secretion; with these changes, the cyclical changes in the uterus are correlated, and upon them they finally depend.

The nature of this secretion is not known. The fluid obtained from the Graafian follicle of the cow is simply serous; while from the corpora lutea of the same animal certain luteins, amorphous and crystalline pigments, have been obtained. But these are not peculiar to the ovary. Ferments have been secured from the ovaries of toads and frogs, but these again are found in other tissues. No specific substance has as yet been isolated. The extreme difficulty in the matter is aggravated by the close chemical correlation which is now known to exist between the secretion of the ovary and that of other ductless glands. It appears that the ovarian *succus* may depend for its activity upon a chemical interaction with the secretion of one or other of these related glands. A certain reciprocity obtains between them, partly at least hormonal. In addition, there exists a certain genetic relationship between the ovary and adrenals, through the medium of the Wolffian body; and a phylogenetic relationship between these two and the thyroid, since the latter, Gaskell states, represents the uterus in some of the lower reptiles. Moreover, several, if not all, of these ductless glands arise in connexion with the sympathetic system, the many ganglia of which contribute an internal secretion of their own. A large amount of experimental work, much of it baffling and contradictory, has been performed upon these ductless glands. Their interdependence has been proved, for it has been shown that the secretion of the one acts upon that of the others, and to remove one, permanently disturbs, or even oversets, the equilibrium of all. The entire process is one of mutual control of metabolism, and especially the calcium metabolism, in the body.

The loss of the ovaries means, as we have seen, the loss of sex influence to the individual, with all the grave disturbance in general metabolism which this loss signifies. The earlier in life that it occurs, the greater is the calamity.

Ovarian transplantation seeks to replace the lost or disabled glands. In animals this procedure has been so successfully carried out that conception has followed it, even in heteroplastic transplantation. In the human, only one such case has been reported, that of Robert T. Morris, of New York; though in homoplastic transplantation Morris and Frank both report cases. The great difficulty in the human female is to be sure, even in a double oöphorectomy, that all ovarian tissue has been removed. In a certain number of cases islets of ovarian parenchyma are scattered throughout the posterior lamina of the broad ligament at varying distances from the main organs, a persistence of the type of diffuse ovary

found in birds and reptiles. This accessory ovarian tissue will perform its function, will even ovulate, after removal of the main organs. Cases of pregnancy after double ovariectomy have been recorded by Gordon, Doran, Blair Bell, and others. One such case came under my own observation in a woman of about forty, upon whom such an operation had been performed by Dr. Lockhart of the Montreal General Hospital. In this case, both ovaries and tubes, having become involved in a severe gonorrhoeal infection, had been removed sixteen months before. Menstruation did not recur for six months after the operation, and then only slightly, and at irregular intervals. She conceived, nevertheless, and in due time was delivered of a healthy child.

While supernumerary ovaries are extremely rare, I think it must always remain doubtful in any given case whether or not the operator has removed all the accessory ovarian tissue. The cessation of menstruation must not be considered an infallible test of this removal, since while enough ovarian tissue may not be left to furnish sufficient "hormone" to institute a complete menstruation cycle, this tissue may yet ovulate and provide a corpus luteum.

Again, in heteroplastic transplantation the incidence or subsidence of all subjective phenomena must be very carefully accepted. Very rarely can the "graft" be made immediately upon the removal of the diseased organs, a great difficulty is to secure the graft at all; and in the interval the patient's economy has become more or less depleted of ovarian secretion. In consequence, the metabolic balance has been greatly disturbed, and the power of suggestion acquires an exaggerated influence, at least for a time.

In all cases of hetero-transplantation the question of the individual specificity of tissue should, I think, be always borne in mind, as this must, of necessity, affect the degree of cell-lysis and degeneration in the graft. The effect of this specificity has been lately emphasized by Marshall in his experimental work on rats. His heteroplastic grafting always succeeded best in rats from the same litter. In this matter the blood of the two individuals would afford a ready and reliable means of determining this specificity index and such a blood examination should always be made.

The success of any grafting can only be definitely decided by a subsequent microscopical examination of the engrafted tissue. For only in this way can the graft be known to have definite cellular life, and the fallacy of the incomplete removal of the original ovarian tissue, or the known vagaries of the power of suggestion, be definitely excluded.

In homoplastic transplantation, the cases must be few wherein an ovary, in whole or in part, is healthy enough to be removed and engrafted, and is not healthy enough to leave alone. In this connexion it is wise to remember the value of the ovarian ligament, for, as has been pointed out by Dauber, this frequently contains active parenchyma-tissue. It is also generally believed that the ovary possesses considerable capacity for regenerating tissue after its partial removal, and hence an additional reason for leaving the segment *in situ*.

The whole question of ovarian transplantation has been lately reviewed, with the addition of much independent research, in an admirable paper published by Franklin H. Martin of Chicago.

Ovarian medication dates from the time of Brown Séquard and Madam Browne for, though the ancients administered the fresh testicles of the fox, liver of the wolf, and the lungs of the deer, *etc.*, to confer upon the recipient the characteristics of those animals, the ovaries apparently were never used; feminine characteristics were not especially affected by the ancients. It was in 1889 that Brown Séquard made his first communication on testicular extract, but as Adami has said, it was not till the demonstrations of George Murray with extract of the thyroid gland in myxœdema that the internal secretions came into their own. In 1898 Bestion de Camboulas published his monograph, "Le Suc Ovarien," which gives the best account of the subject that has as yet appeared. Included in this work are a large number of animal experiments. These results have never been contravened, and may be summarized as follows: "Troubles of the menopause, natural and artificial, were much ameliorated by ovarian extract. Rapid improvement was always seen in amenorrhœa and chlorosis. Mental troubles which accompany genital lesions are greatly lessened, and in such cases there is always marked improvement in the general condition. It must never be given to pregnant women, as in pregnant animals even small doses may prove toxic."

This is practically the therapeutic view of to-day, though a greater elegance has been achieved in the preparations themselves. Just as in the procural of the digestive ferments of pepsin and trypsin, the sow is the preferred animal. Cows are too prone to tuberculosis; heifers' ovaries are not sufficiently active, and ewes' ovaries are too small. The preparation of the dry gland with sugar and gum in the form of pills or tabloids is the article with which we are most familiar.

In selected cases this ovarian substance has a definite therapeutic value, though the results in different individuals are by no

means uniform. I have seen no ill effects follow its use, and in some instances the results are almost miraculous. A single instance of a case seen three months ago, may be cited. This was that of a young woman of twenty-seven, from whom both ovaries had been, feloniously, removed for dysmenorrhœa two years before. The condition of this woman was pitiable, and the close correlation of the ovaries to the sympathetic system was amply borne out by her appearance. A state of *chronic surgical shock*, with pronounced mental instability, perhaps best describes it. The exhibition of two of Burroughs and Wellcome's 5 gr. tabloids of "Varium" three times daily recreated this woman within a month. In some cases I have found that the addition of arsenic or small doses of the thyroid extract gives more favourable results.

The natural and proper conservation of the ovary, however, consists in leaving it alone. As a profession, I think we cannot too strongly fortify this position, and especially as concerns the woman in her second or third decade.

Malignant disease, of course, remains in a class by itself; as it affects the ovaries, it is very commonly bilateral. With us in the Royal Victoria Hospital, it has been four times more frequently found affecting both ovaries. It is fortunately, however, commonly a lesion of middle or old age, when the sacrifice of the ovarian tissue is not so disastrous.

In the innocent neoplasms, and despite the views of the pathologists, a certain number of these are clinically and virtually innocent, there is usually the opposite ovary to be relied upon. On the rare occasions when both ovaries have been involved in such innocent growths, it has been my practice in the case of young adults, to resect such a neoplasm, and to leave a certain area of its periphery behind, adjusting its secretive surface widely open to the peritoneal cavity. I have yet to see any harmful results follow such a procedure, whereas the larger number of those cases have so escaped a premature menopause.

The various infections, however, constitute the greater number of these cases of ovarian surgery. For, though the ovary is well protected by its capsular membrane from both gonorrhœal and tuberculous infection, it usually finally succumbs. Its position in the lymphatic path renders it on the other hand specially vulnerable to the pyogenic infections of the pelvis. With all such infective conditions, each case must of course be taken by itself; but in my opinion, the experience of the operator is, in most instances, the determining factor. The greater his experience, the more conser-

vative does he become. Save in the few worst cases, sections, or segments, or cortical strips, from one or other ovary, may be safely left behind. For some time it has been my practice to reflect these sections or strips away from the infected area, and while leaving these attached at one extremity, to tack them backward or outwards upon a more healthy peritoneal area, a modified homoplastic transplantation. I mention here again the value of the ovarian ligament, for composed as it largely is of dense, resistant tissue, its parenchyma frequently escapes the infective process.

Fibro-cystic ovaries no longer exist, I believe, as a pathological entity, but only as an exaggerated condition, in certain individuals, of ovulation wear and tear. This condition is entirely within the limits of the normal, and to remove these ovaries is to commit a surgical blunder.

For dysmenorrhœa one should remove the ovaries—never. In any imaginable desperate case, a hysterectomy would be indicated. Only in the rarest instances should the ovary be removed for ovarian pain, for the ovary itself is rarely at fault. Frequently is it a varicocele or a gouty or rheumatic diathesis. Here as elsewhere, in the words of La Rochefoucauld, "Pain is the biggest liar in the world."

W. W. CHIPMAN.

Men and Books

BY SIR WILLIAM OSLER

I. NICOLAUS STENO. The Danes have good reason to be proud of the series of distinguished men who have graced the profession of that country in the past three hundred years. No one should have a warmer place in our memory than the anatomist, geologist, and theologian, whose name is on our lips daily in connexion with the duct of the parotid gland. There has recently been published in Copenhagen at the expense of the Carlsbergfond (an institution corresponding to one of the Carnegie Foundations), and edited by Vilhelm Maar, "*Nicolai Stenonsis Opera Philosophica*," in two sumptuous volumes. The edition is limited, but it should be in the hands of all important medical libraries. It may be obtained from Vilhelm Tryde, Copenhagen, and the price is 50 krona.

An excellent introduction, in English, gives an account of Steno's life and work. After studying with the famous Bartholins, father and son, he went to Amsterdam, where in his twenty-second year he made the discovery with which his name is associated. Then he studied with the famous Sylvius, of Leyden, and after a disappointing visit to his native city, where he had hoped to obtain a professorship, he went to Paris and then to Florence. In addition to anatomical studies, he seems to have everywhere taken a great interest in the religious conditions, and in Florence he was gradually won over to Catholicism. By this time he had done a great deal of good anatomical work on the lymphatic vessels, the brain, the heart, and the muscles, and also in comparative anatomy, and the papers are reproduced in these volumes.

The very day he renounced his Protestant faith Steno was summoned to the University of Copenhagen by the Danish king, but he did not take up his work there as *Anatomicus Regius* until 1672, and he found the conditions so unfavourable that he resigned after two years.

The scientific work of Steno is more appreciated to-day in geology than in anatomy. During his prolonged visits in Florence he became interested in the geological conditions of Tuscany, and his studies in palæontology were among the first to determine the exact nature of fossils. He also made important generalizations

on stratification. A few years ago the International Society of Geologists erected a tablet to his memory in the court of the Laurentian library at Florence.

From brilliant studies in science Steno was early diverted to religious problems, and in 1675 he took orders in the Roman Catholic church and devoted the rest of his life to the service of God and the church. With a singular charm of manner and great personal piety he was soon surrounded in Florence by hosts of friends, and so much was he appreciated that in 1677 he was appointed Bishop of Titipolis "in partibus infidelium," and Vicar Apostolic of Northern Germany and Scandania. For a time he lived in Hanover, then in Münster, and lastly in Hamburg. He sold all his property and lived the life of an ascetic, and made long, troublesome journeys. At Hamburg the austerity of his life became so extreme that he did nothing to live up to his rank, did not even wear his clerical suit, and spent everything on the poor. So ardently did he work for the church that he made himself hated even by the Catholics, who threatened to cut off his ears and drive him from the town as a criminal. In 1685 he left Hamburg for Schwerin, "where he worked under circumstances which were, if possible, still more distressing, and here he died in unspeakable misery, forty-eight years old." The Grand Duke of Tuscany had his body removed to Florence, where it rests in the crypt of St. Lorenzo. A strange figure, one of the strangest in our history, well worthy of the affectionate tribute which his countrymen have paid in these two splendid volumes.

II. LES COLLECTIONS ARTISTIQUES DE LA FACULTE DE MEDICINE DE PARIS. There may be faculties with finer buildings, there are some with better laboratories, but there is none of any country with such a history, or with such treasures, artistic and literary, as the medical faculty of Paris. And this is as it should be, since in time it out-dates all but Oxford and Bologna, and in long centuries of importance it out-classes all others. The most cherished possession of its magnificent library, second only to that of the Surgeon-General's in Washington, are the twenty-five manuscript volumes of *Commentaries* from 1395 to 1786—incomparable annals, as Corlieu says, written by the hands of the one hundred and ninety-four deans who successfully became head of the school, and who related in these volumes the important acts of their administrations. And there were earlier records, but Dr. Hahn, the learned librarian of the faculty, told me he did not think there was medical instruction before 1200, and that the date of the first doctorate was 1270.

But the object of this note is to call attention to a sumptuous work in large quarto issued by Masson et Cie (100 francs), and edited by Noé Legrand, Dr. Hahn's able coadjutor in the library, and published under the care of the present dean, Professor Landouzy.

After a description of the buildings and pictures of the present faculty, and their gradual evolution, there follows a set of beautiful reproductions of the portraits in the possession of the faculty, many of great artistic, and all of historical, importance. There are fine early pictures of Guy De Chauliac, Pitard, the great thirteenth century surgeon, and many of the men who in the fifteenth and sixteenth centuries made Paris famous, Fernel, Piètre, and Riolan. One above all others is interesting to the historical student, Gui Patin (1601-1672), author of the famous letters which give such a life-like picture of the medical profession in France in the seventeenth century. Legrand quotes a happy description of him by Vigneul-Marville: "Il était satirique depuis la tête jusqu'aux pieds. Son chapeau, son collet, son manteau, son pourpoint, ses chausses, ses bottines, tout cela faisait nargue à la mode et le préces à la vanité. Il avait dans le visage l'air de Ciceron, et dans l'esprit le caractère de Rabelais. Sa grande mémoire lui fournissait toujours de quoi parler, et il parlait beaucoup. Il était hardi, téméraire, inconsidéré, mais simple et naïf dans ses expressions. Il s'exprimait en latin d'une manière si recherchée et si extraordinaire que tout Paris accourait à ses thèses comme à une comédie."

Then follows a group of about fifty portraits of the celebrated members of the College and Academy of Surgery; afterwards the portraits of the modern men who have made the school since the fusion of the College of Surgery with the old faculty. There are splendid pictures of Laenec, of Nélaton, and of Trousseau. The faculty is very rich in sculptures, of which there are reproductions of more than one hundred.

Among the most treasured possessions of the medical school are the famous Gobelin tapestries, executed in 1634. They are in a splendid state of preservation, and are beautifully reproduced in this volume. Then follows a description of the various designs, engravings, medals, and the different works of art in the possession of the faculty. It is a magnificent volume, full of historical interest, and exposes for the first time to full light the wonderful treasures of the Paris school.

III. SAMUEL WILKS. When a student in Montreal, during the summer of 1871, I had an opportunity to make a good many post mortems at the General Hospital, and with the material so collected, I wrote my graduation thesis. It was my habit to pester Dr. Palmer Howard for information and literature, and one day he handed to me Wilks's "Lectures on Morbid Anatomy," and from that time everything was plain sailing, as all the ordinary appearances met with were described fully. This was my first introduction to the well-known Guy's Hospital physician. When a student in London, Mr. Arthur Durham, one of the surgeons at Guy's, whom I knew quite well, took me to Dr. Wilks's wards one day, and I have very pleasant recollections of a delightful visit. In 1875 I sent him a copy of a study which I had made of a remarkable case of a miner's lung, which I had obtained from the body of a Nova Scotian miner who had died under my care in the small-pox department of the General Hospital, and to this day I can recall the great pleasure I felt at the kindly letter I received in acknowledgment, the first of a great many which he wrote to me, always in the same sympathetic way. I did not meet him socially until 1878, when I was in London with Dr. George Ross. I sent our cards in one day as he was "making the rounds" at Guy's. I was surprised that he left the bedside group with such rapidity after receiving our cards, but he rushed up to us and with some embarrassment, and with his eyes twitching, asked "For Heaven's sake, do either of you speak French?" He was struggling with an exceedingly inquisitive professor from Bordeaux, and fortunately Dr. Ross was able to act as intermediary. We spent a delightful evening at his house, and thereafter it was my habit, on visits to London, always to call upon him.

Few men in the profession had a longer or better innings. With his death snaps the last link between the old medicine and the new, the link which united the profession with the famous clinicians of the early part of the last century, Bright, Addison, and Hodgkin. Wilks may be said to have stood sponsor to both Addison and Hodgkin, and his best work was probably in helping to clearly define the diseases described by them. He illustrated the advantages and disadvantages of approaching clinical medicine through the dead house. Knowing disease thoroughly, he became a great diagnostician, but his training fostered the therapeutic nihilism into which he, Gull, and many of his contemporaries were driven, and for which, when we think of the vagaries of those days, we have to be greatly thankful. He was a frank, outspoken man, whose yea was yea, and nay, nay, to students and patients alike.

Wilks's life may be read in his recently issued "Biographical Reminiscences," which give a charming picture of his early years, and of the Guy's Hospital School, of which he was in our generation the chief ornament. While not a great autobiography, like that of Kussmaul, it has the merit of a well-told story, without needless padding, and rich in details of a period memorable in our history. He had a remarkably attractive personality, which age so adorned, that at three score and ten there was no handsomer man in London. A good head, well-moulded features, merry blue eyes, and abundant white hair made up an ideal picture. And he had all the things that should accompany old age, fairly good health to the end, an unceasing interest in life, and the affectionate esteem of a large circle of friends. The last time I saw him in public was at Guy's Hospital, about five years ago, when I gave an address on Sir Thomas Browne. He was then over eighty, and had recently recovered from an appendicitis operation. It was delightful to see the just pride which the Guy's students took in the dear old man, to whom they listened with eager attention. Blest with the saving salt of humour, he reminded one sometimes of the Autocrat of the Breakfast Table, to whose works he was devoted. In their outlook on life they had much in common, as Holmes himself remarked in a charming letter which is given in Morse's life. Wilks had a delicious honesty which sometimes bordered on the indiscreet, and which did not always make his advice as a consultant acceptable. And on the occasions at which it was his duty to read biographical notices, the "verum" rather than the "bonum" was emphasized. But these traits only added to the charm of a great physician and an honest man.

Retrospect of Medicine

THE SPECIFICITY, DANGER, AND ACCURACY OF THE TUBERCULIN TESTS. L. BROWN. *The American Journal of the Medical Sciences*, VOL. CXLII, October, 1911, p. 469.

BROWN believes firmly in the specificity of tuberculin for tuberculosis infection, and, if leprosy be excluded, all published reports which go to show that other diseases, particularly syphilis, react specifically to tuberculin, may be received with doubt. The dangers following the use of the various tests are slight, and if proper dilutions of tuberculin be used and appropriate cases selected, little or no harm will result. Although the subcutaneous test still remains the most reliable of all the tuberculin tests, it has not become popular on account of the *general reaction* required. That tubercle bacilli have been found after giving this test, simply indicates that the sputum has not previously been examined carefully enough. In two hundred and eighty-six cases at the Adirondack Cottage Sanatorium that were given the subcutaneous test, only 6 per cent. showed tubercle bacilli afterwards, and in less than 2 per cent. did the bacilli occur within two months, so that little importance can be attached to the tuberculin test as the cause of the occurrence of tubercle bacilli in the sputum. Failure to react to 10 milligrams of old tuberculin does not exclude clinical tuberculosis. In practice, exposure to infection, hemoptysis, pleurisy with effusion, localized persistent râle at an apex, are of more importance than the reactions derived from any of the tuberculin tests.

THE INVESTIGATION OF THE SPUTUM SUSPECTED OF CONTAINING TUBERCLE BACILLI. M. NEMMSER AND E. MARTIN-LISSOWSKA. *Deut. Med. Woch.*, September 14th, 1911, pp. 1697-1698.

THE authors have made a comparative study of the different concentration methods described by various writers, and believe that the acid trypsin digestion method is superior to them all. To 5 c.c. of sputum is added an equal quantity of 0.4 per cent. Hcl. The mixture is then shaken well and to this is added about 0.1 c.cm. of trypsin or pancreatin. It is now placed in the incubator at 37°C., shaken from time to time, and allowed to remain there from three to five hours. Smears are made from the sediment.

RALES IN THE LUNG APICES. Külbs. *Zeitschrift für Klinische Medizin*, Bd. 73, Heft 34, 1911, p. 12.

KULBS reports on a series of cases between the age of twenty and thirty-five years that had come to his notice in the first medical clinic, Berlin. These patients complained of pains in the breast and back; loss of weight and strength; cough and expectoration. On examination the physical signs were generally limited to the right apex—seldom in the left. The breathing in the affected area was rough, vesicular, with expiration prolonged and râles present on quiet breathing. Cough did not increase these sounds, and they remained very constant often for weeks at a time. The sputum contained no tubercle bacilli. Five of the reported cases had been given the tuberculin test, and the result was negative. Külbs points out that many cases that have been diagnosed as having tuberculosis from the presence of râles at the apices are really not so, and are simply suffering from a localized catarrh which has extended from the pharynx and larynx. He speaks of Möller, Krönig and Köhler as having had similar experiences to his own.

CONTRIBUTION TO THE TUBERCULOSIS DIAGNOSIS IN CHILDHOOD. (THE INTRACUTANEOUS REACTION.) D. ENGEL. *Deut. Med. Woch.* Berlin, September 7th, 1911, Vol. XXXVI, pp. 1637-1641.

ENGEL urges the use of the intracutaneous test, both in the clinic and in general practice. He believes it to be the most trustworthy of all the tuberculin tests. The reaction is relatively light and causes no discomfort to the patient. The method permits of the dose being accurately measured, and where the other tests have their limitations, the intracutaneous test will be found to be suitable and sure in its results.

Engel uses 1 drop of a 1 to 1,000 solution of old tuberculin, which will be found to produce a reaction in the majority of cases. If no reaction occur then the strength of the solution is increased to 1 per cent., 10 per cent., and, if necessary, to 100 per cent. for some cases. If no reaction occur to the stronger concentrations, he is of opinion that tuberculosis can certainly be excluded.

THE LEUKOCYTIC PICTURE IN PULMONARY TUBERCULOSIS. SOLIS-COHEN AND STRICKLER. *The American Journal of the American Sciences*. No. 476, November, 1911, pp. 691-698.

THE writers have endeavoured to find out if there is any rela-

tion between the different types of leucocytes and the extent and progress of the disease. From fifty patients, at the Philadelphia Jewish Sanatorium, one hundred and eighty-two blood counts were taken. The patients were grouped in three stages, incipient, moderately advanced, and far advanced, and the following conclusions were made: (1) Improvement in pulmonary tuberculosis is associated with an increase in the proportion of lymphocytes in the blood at the expense of the polymorphonuclear cells. As the patient grows worse the proportion of polynuclears increase. (2) Increase in the proportion of polynuclear cells containing one and two nuclei (Arneth) occurs when the patient is doing well. (3) Mononuclears, transitionals, and eosinophiles are unaffected by the stage, extent or progress of the disease. (4) The leukocytic picture often determines the resistive power of the tuberculous patient.

"CONSUMPTION AND ORDER OF BIRTH." RIVERS. *The Lancet*, October 7th, 1911, pp. 899-1004.

RIVERS, when holding a resident position at Crossley Sanatorium, in 1906, observed in the patients' case sheets a large number of entries of eldest born children and from these conceived the idea that clinical pulmonary tuberculosis might affect such persons more than others. The data were forwarded to Professor Karl Pearson who has since shown that the incidence of tuberculosis is greater among the first and second born than among the younger members of the family. The writer refers to the records of Brehmer and Riffel, who both believed that the eldest born escaped tuberculosis while the later born were likely to be consumptive. From Pearson's mathematical study it appears to be the reverse, i.e., a special incidence of consumption on first born, to a less degree on second born, children. In Rivers' own cases (Table 11, 263, Table 12, 353) there is still considerable eldest born excess and some second born excess. It is also seen that primiparous children of consumptive parents more frequently contract tuberculosis than like children of non-consumptive parents. This is explained by the more frequent exposure of the infected.

Retrospect of Surgery

NOTES UPON THE THIRD TRIENNIAL MEETING OF THE INTERNATIONAL ASSOCIATION OF SURGEONS, HELD IN BRUSSELS, SEPTEMBER, 1911. Reported in the *Centralbl. f. Chir.*, No. 43, 1911.

At this very important congress of surgeons there were set down for discussion three main subjects: the treatment of fractures, acute and chronic pancreatitis, and the surgery of the pleura and lungs, one day being set apart for each subject.

To Michel, of Nancy, was assigned the duty of presenting the subject of pancreatitis, in particular its diagnosis and treatment. First, he gave a classification of the affection as understood under the collective title of pancreatitis, a classification which is now customary and generally recognized. Under acute pancreatitis he included the hæmorrhagic, the suppurative, and the gangrenous forms; under chronic pancreatitis, the sclerosis, and the lipomatosis of the gland, and also pancreatitic lithiasis. All these forms of pancreatitis, he claimed, should be acknowledged as surgical. Even the catarrhal inflammations of the pancreas, before they become chronic and incurable, may be cured by surgical means.

With pancreatitis, early diagnosis and early interference are necessary; it is impossible to wait for confirmation of the diagnosis in the laboratory. Often, of course, diagnosis is very difficult, as all acute affections of the upper abdomen have symptoms almost identical with those of acute pancreatitis. M. quotes the *mot* of Koerte's, that in abdominal surgery one must always remember the fact that, hidden deep behind the stomach, there is a gland which is more often affected than has been thought. In diagnosis one must be guided (1) by the physical signs; (2) by the peculiarly severe nature of the pain, as well as its situation; (3) by certain functional disturbances, especially steatorrhœa, rapid emaciation, and glycosuria. The acute hæmorrhagic or suppurative pancreatites run a course either under the type of an intestinal obstruction or under that of a perforative peritonitis. He laid stress upon the value of a very exact case-history which often revealed the diagnosis through this or that particular symptom. It was difficult to distinguish the different acute or peracute forms from

each other, as their clinical symptoms were alike. Just as difficult was it to diagnose the chronic forms which complicate cholelithiasis. Very important, of course, was the examination of the functional disturbance of pancreatic secretion. Chemical examination of the stomach and the duodenal contents of the fæces, and of the urine, by the methods of Sahli, Wohlgemuth, and Cammidge, is necessary. After all, however, there exists no absolutely reliable method of examination of the pancreatic secretion; so that diagnosis will almost always be one of probability, *per exclusionem*, which will have to be confirmed by operation.

Koerte, of Berlin, led the discussion as follows: The various forms of pancreatitis—the hæmorrhagic, suppurative, and necrotic,—run so much into each other that at the outset they are impossible of separation. Fatty necrosis is never the cause, but the effect, of pancreatitis. In many cases one can make a probable diagnosis, but seldom with certainty, as there are no pathognomonic signs.

Clinically, the peritoneal signs are at the onset the most pregnant; later the bowel paralysis dominates the picture. The pains at the beginning of the affection are colicky, as in gall-stone attacks. Glycosuria, in his experience, is seldom found; when present, it indicates almost total destruction of the pancreas.

With regard to treatment, Koerte pointed out that the recent tendency to operate on all cases of peritonitis brings as a consequence more frequent early interference in acute pancreatitis. We have discovered that early operation is the only treatment that gives good results. Once necrosis and gangrene have set in, the prognosis becomes poor. Early operation is necessary, especially to prevent necrosis if possible. Necrosis has been found present as early as the third day. Operation consists in an epigastric incision, the evacuation of serous-hæmorrhagic exudate, and saline irrigation. The pancreas must be exposed in every case; the best route is through the ligamentum gastro-colicum. The serosa is to be torn through and one must penetrate bluntly with forceps into the gland, in order to relieve tension and give drainage to the secretion. Only in this way can necrosis be prevented or limited. Only in collapse cases may one rest content with opening or drainage of the peritoneum. Rapidity of operation is a necessity, because of the frequency of collapse. Much search through and pulling of the bowel is to be avoided. Koerte does not recommend the loin incision, except for collections pointing there. Secondary hæmorrhage from eroded vessels may be a great danger. Fistulæ of the pancreas usually heal spontaneously with time. Koerte collected

one hundred and eighteen cases of acute pancreatitis in the literature with 38 per cent. mortality. His own number was fifty-two cases; eight of these got well without operation; five were diagnosed only at autopsy, as they were moribund and inoperable. Thirty-eight were operated upon, with 47 per cent. mortality. Among those operated upon during the first week, the mortality was only 20 per cent.; in the second and third weeks, 35 per cent.; later, 100 per cent.

Giordano (Venice) discussed in particular the chronic form, and advocated surgical treatment for chronic cases, directly by pancreastomy, indirectly by drainage of the gall passages.

Delagénère, of Mans, declared that with few exceptions the acute form was the last stage of the chronic disease. We must attack the disease in its chronic stage, in which operation is often successful.

R. dos Santos (Madrid) emphasized the value of costo-lumbar pain and muscular rigidity in the diagnosis.

SECOND DAY. Pleuro-pulmonary Surgery. This subject was presented by Carré, of Bonn. One can give only a few notes of his address. The avoidance of operative pneumothorax with its dangers was the first essential in lung surgery. The greatest danger lay, not in the complete exclusion of one lung, but rather in the flapping of the mediastinum with consequent reduction in the gaseous exchange in the other lung. The danger is overcome by fixation of the mediastinum, or by pulling forward a lobe into the wound. The breathing and heart action improve; and the danger, at least for the moment, disappears. Pleural adhesions lessen the danger of open pneumothorax. The method of differential pressure here comes in as the one easy way to avoid these dangers. He believed that positive pressure was further from the physiological normal than negative pressure. With the former, pressure on vessels became too great, and the right heart was apt to become over-dilated, so that, with a weak heart and long application of the pressure, there was considerable danger. He thought the apparatus of Meltzer and Auer as carrying out the principle of intratracheal insufflation was the simplest and safest yet devised for use in pulmonary surgery.

News

CASTOR, Alberta, has a new hospital. It cost \$25,000, and is under the charge of the Sisters of Mercy.

THE Nova Scotia Hospital for Insane has in course of erection a new building for acute cases, which has been designed according to present-day ideas. It will accommodate seventy patients, and will cost about \$80,000.

THE L. P. Fisher Memorial Hospital, at Woodstock, was opened in November. The hospital is situated in the upper end of the town, and was the residence of the late L. P. Fisher. It is a handsome building surrounded by ten acres of land.

DURING the week of the Ontario Medical Association annual meeting it is proposed to hold a large reunion of graduates of Trinity Medical School. A formal banquet will probably be held on Tuesday, May 21st. Dr. Samuel Johnson, 169 Carlton Street, Toronto, is secretary of the committee of arrangements.

At the ninth conference of the International Red Cross Society to be held in Washington next May, there will be an important exhibit of appliances for alleviating the sufferings of sick and wounded soldiers. Prizes amounting to nine thousand dollars will be awarded in the Empress Marie Feodorovna competition, and these may be competed for by Canadians. The Canadian Red Cross Society, of which Dr. C. R. Dickson, of Toronto, is secretary, is taking an active interest in the competition and in the conference.

THE trustees of the National Sanitarium Association have announced to the medical profession in Canada that they have appointed Dr. W. P. Caven, Dr. J. T. Fotheringham, Dr. H. B. Anderson, and Dr. Harold Parsons as consultants to the Muskoka Cottage Sanitarium and the Muskoka Free Hospital. These well-known physicians will spend a day regularly once a month at the Muskoka Homes. The visits of Dr. Parsons, who has charge of

the tuberculosis clinic at the Toronto General Hospital, will be every two months.

ONTARIO MEDICAL ASSOCIATION

THE annual meeting of the Ontario Medical Association will be held on May 21st, 22nd, and 23rd, 1912, and the committees are already at work. Dr. Herbert Bruce is president, and Dr. J. T. Fotheringham is chairman of the committee of arrangements.

ST. JOHN'S AMBULANCE ASSOCIATION

THE annual meeting of St. John's Ambulance Association in Ontario was held in the Normal School, Toronto, on November 28th. The meeting was graced by the presence of H.R.H. the Duke of Connaught, President of the Hospital Association and Grand Prior of the Order of St. John of Jerusalem. His Royal Highness in an address to the association spoke of the great value which their work attained in such a sparsely settled country as Canada. He felt that a first-class aid certificate should be a requisite in every home.

Dr. C. J. Copp, the honorary secretary-treasurer, read his annual report, which showed that the work in the province is expanding rapidly. During the last year five hundred and forty-seven certificates in first-aid have been issued; sixty in home nursing; fourteen in home hygiene; eleven in sanitation; and one hundred and four in junior first-aid. Fourteen medallions and ten labels have been presented; fifty-two classes have been held. The work of the association is being carried on earnestly in many cities. These now include Toronto, Hamilton, London, Ottawa, Stratford, Brantford, Galt, Belleville, Paris, and Owen Sound.

Election to the Ontario Council for the ensuing year resulted as follows: patron, His Honour the Lieutenant-Governor; president, Col. James Mason; vice-presidents, Col. W. N. Gartshore, London, and Wallace Nesbitt; chairman of the executive, Col. J. F. Fotheringham; honorary secretary-treasurer, Dr. C. J. Copp.

Obituary

DR. J. W. ALWAY, of Grimsby, died November 15th, in his seventy-sixth year. He was born in Oxford County, and was educated at Victoria College, Toronto.

DR. J. A. AUMONT died in Montreal, December 3rd, from pneumonia. He was born in Oswego, forty-one years ago, and settled in Montreal about eight years ago.

DR. F. A. COX, of Upper Stewiacke, died November 26th. He was the eldest son of Dr. Cox, of Upper Stewiacke, and was assistant to his father at the time of his death. Dr. Cox was a graduate of Dalhousie University and the Halifax Medical College.

Canadian Literature

ORIGINAL COMMUNICATIONS

December, 1911

Canadian Practitioner and Review:

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|---|------------------|
| A Case of Acromegaly | Graham Chambers. |
| Surgical Treatment of Infantile Paralysis . | John R. Parry. |
| A Case of Spindle-cell Sarcoma of the | |
| Larynx | J. Price-Brown. |

Canada Lancet:

- | | |
|--------------------------------------|------------------|
| Heterophoria and Headaches | G. S. Ryerson. |
| Notes on a Trip Abroad | D. Gibb Wishart. |

Canadian Journal of Medicine and Surgery:

- | | |
|---|------------------|
| Biological Aspect of Tuberculosis | A. H. Caulfield. |
| Post-Partum Hæmorrhage | R. Ferguson. |
| Causes of Increased Heart Rate in Fever . | H. K. Moorhouse. |
| Address given by the Chairman of the Surgical | |
| Section of the Academy of Medicine | A. H. Bruce. |

Dominion Medical Monthly:

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| The Rôle Played in the Genito-Urinary System | |
| by the Colon Bacillus | G. S. Peterkin. |
| A Law of Sensitiveness | G. W. Howland. |
| A Few Considerations | J. S. Sprague. |

Le Montréal Médical:

- La tuberculose et ses différents modes de contagion M. le professeur Debove.
 Le traitement du diabète gras . . . M. le professeur Robin.
 De la persistance des râles sous-crépitaux pulmonaires M. le professeur Bernheim.

The Public Health Journal:

- Toronto Water Supply: Prevention of Waste . W. Oldright.
 Le médecin et l'hygiène E. P. Lachapelle.
 Modern Features in Connection with Sewage Disposal J. A. Murray.
 Foods and Their Relation to Public Health . P. B. Tustin.
 The New Public Health Act and the Effects on Provincial Municipalities E. M. Wood.

Western Canada Medical Journal:

- Nastin Treatment of Leprosy . Fernand L. de Verteuil.
 The Need of Care for Crippled Children Douglas C. McMurtrie.
 A Long Vacation Albert Paling.
 Mental Training in Childhood . . . Robert Jones.
 The Value of Elimination in the Treatment of Disease A. B. Conklin.

Medical Societies

MONTREAL MEDICO-CHIRURGICAL SOCIETY

THE sixth regular meeting was held December 15th, 1911.

PROGRAMME

- LIVING CASES:** Dislocation of Semi-lunar Bone; Reduction.
 H. S. Shaw, E. W. Archibald, A. H. Pirie.
PATHOLOGICAL SPECIMENS: Series by O. C. Gruner.
PAPER: The Present Position of Radiotherapy in Medicine.
 Illustrated by Lantern Slides. A. Howard Pirie.
CASE REPORT WITH SPECIMEN: 1. Intussusception. 2. Carcinoma of the Cæcum. K. Cameron and L. J. Rhea.

CASE REPORT: Pulsating Exophthalmos; Ligature of the Common Carotid. G. H. Mathewson and J. M. Elder.

SYNOPSIS OF THE PAPER: Action of *x*-rays on normal and diseased tissues. Action on growing cells, roots of hairs, sweat glands; *x*-rays as a stimulant, vesicant, and destructant. The class of disease likely to be influenced by *x*-rays. Diseases treated with success during the last ten years with *x*-rays. Measurement of dose of *x*-rays. Importance of measuring the dose exactly. Suitable dose for different diseases. Lantern slides before and after treatment by *x*-rays of patients with ringworm, rodent ulcer, lymphadenoma, tuberculous glands, keloid, epithelioma. Cure of excessive perspiration by permanent destruction of the sweat glands. Effect in splenic leucæmia, psoriasis, gouty eczema. The value of *x*-rays in recurrent carcinoma after removal of breast, and in myoma uteri. Removal of superfluous hairs, nævus.

TORONTO ACADEMY OF MEDICINE

MEETING OF NOVEMBER 6TH, 1911

CASES SHOWN: (1) Dr. McLennan: Child four years old. A white reflex discovered by his parents in the left pupil. The lower part of the posterior segment shows a whitish tumour, all red reflex lost; the upper part more like an exudate, with a slight reflex seen. Some flocculent material in the vitreous. For diagnosis.

Discussion: Dr. Reeve could not see any blood-vessels on the tumour, and thought the upper area looked like exudate. Did not think it gliomatous, and would suggest tuberculin test. Dr. Ryerson thought it looked like a solid growth; not like a glioma, but by exclusion it might be a sarcoma. Dr. McFarlane had a similar case, which he was watching. His case was bi-lateral, double white reflex and a few small vessels. His diagnosis was tentative.

(2) Dr. Reeve: Coloboma of the iris and choroid, lens not involved. Fortunately the apex of the coloboma did not reach within a disc-breadth on the nerve-head, and the patient had never noticed the defect in his field. The other eye had degenerated, and had been removed.

(3) Dr. Price-Brown: Showed the case of congenital cyst under or in the tongue, reported last month. Abscess has been opened and found to extend back under the tongue two and one-

half inches. The sac cauterized with electric cautery and swabbed with carbolic acid, and packed. There was no connexion with Wharton's duct. On first removal of packing a large sac had followed leaving a clean surface.

Discussion: Dr. Wishart—It was unfortunate that a specimen of the sac wall had not been examined. He thought it probable that it was a slough which had come away.

(4) Dr. Davies: Girl fifteen years old; five years ago her tonsils had been excised, before which her voice had been lost. Since then she spoke in the hoarse voice she now has. No abnormality can be found to account for it.

(5) Dr. Goldsmith: Conservative mastoid operation with early post-aural closure; bismuth-paste dressing. Miss M., aged twenty-five. Deafness bilateral since childhood. Right ear dry, formerly had discharge for years; this ear has no useful hearing; left ear has had periodical discharge since childhood. For the past few years ear is said to have been dry. Six or eight months ago discharge appeared again and has continued ever since. Patient was first seen October 4th, 1911. There was some vertigo at times, nystagmus only to the right. Pain on the left side of the head, and mastoid antrum, no swelling over the mastoid. The canal was filled with granulation and pus. This being the only useful ear, I hesitated to do a radical operation, preferring to thoroughly clear the mastoid and antrum, and then shut the antrum and tympanum from one another by iodoform paste. The mastoid was found diseased at the tip and along the posterior meatal wall to the antrum, which was full of granulation tissue. The after dressing consisted of a narrow rubber band placed in the lower angle of the wound. One week later the mastoid cavity was filled with bismuth paste, and the lower opening closed. Immediate union took place. The aural discharge has practically stopped and hearing is greatly improved.

(6) Dr. Goldsmith: Mastoiditis without post-aural packing—modified blood-clot. This case is of no special interest except that it shows that one may thoroughly clean out a suppurating mastoid and have healing in two weeks without the necessity of post-aural dressing. In this case the wound was allowed to fill up with blood, and a small rubber band was inserted as a drain for the serum. This drain was removed in twenty-four hours, and no further packing used. Ear is dry and hearing normal.

Discussion: Dr. Wishart congratulated the operator on the outcome; this was one of the successful cases where the blood-clot "takes." Dr. Boyd was of the opinion that generally the packing is kept up too long after the Schwartz operation; he had better results since he lessened the time of packing, results which compared favourably with the result of the blood-clot method. He was not very favourable to the latter method.

(7) **Tuberculosis of the Larynx:** Patient, a commercial traveller aged twenty-nine. Hoarseness two months' duration, gradual onset following cold and influenza. No tubercular family history; eighteen months ago was a patient in a tuberculosis sanitarium, from which he left as "cured." Now there is a thickened layer of granulation tissue over the left vocal cord, the centre of which appears eaten out by a shallow ulceration allowing the cord to show through. His chest shows no active disease at present.

Discussion: Dr. Price-Brown asked what treatment was proposed. He had showed a case two years ago which was treated by multiple punctures with the actual cautery, and the patient was quite well to-day, and working. Dr. Wishart would like to see the actual cautery left out in this case. Dr. McDonagh approved of the actual cautery; the rest treatment if tried must be absolute, and it is so hard to get the patient to preserve absolute silence for a long time, especially if tried at home. Dr. McFarlane had seen a case of St. Clair Thompson's, where the rest cure had yielded splendid results. Also he had never seen any bad effects from the cautery in the larynx. Replying, Dr. Goldsmith said that he would not use bismuth paste in acute cases. He did not uphold the blood-clot method without a drain into the serum for the first twenty-four hours. In the treatment of laryngeal tuberculosis he used both the actual cautery and the rest method. He called attention to the fact that the object of the cautery was to set up a fibrosis, and thought it best where there was a good deal of granulation tissue.

(8) **Dr. Goldsmith:** Case of papilloma of the larynx in a boy eight years of age. Patient gives a history of hoarseness of many months' duration. Family and personal history unimportant. The right cord was covered with a large papilloma, which he endeavoured to remove by the direct method. A good deal of difficulty was experienced, but he was able to remove the largest part quite easily with an endolaryngeal forceps. A very small nodule still exists on the anterior part of the other cord.

(9) Dr. Wishart: Middle ear disease with complications. S.Z., aged fifteen, appeared at the clinic in December last, complaining of persistent general headache, chiefly located in the vertex and occipital regions, which had at first been localized in the left side, and a partial facial paralysis. She was conscious, but drowsy and irritable, with some photophobia, and rigidity of the neck. The temperature varied from 97.3 to 103°. Kernig's sign was present and more marked on the left, knee jerks exaggerated. Fundi normal. On attempting to syringe ear patient became dizzy and fell to floor, so that no observations could be made. The history of the left ear trouble could not be elicited, except that there had been discharge off and on for a long period. Hearing apparently absent. Immediate operation was undertaken, the mastoid was very dense, and the attic was filled with cholesteatomatous material, but no trace of ossicles. The facial ridge was taken away almost flush with the floor, and the sinus and dura exposed. No fistula was found. The temperature fell and continued down for about ten days, when it rose suddenly to 101°. Meanwhile, the headache, which had also lessened, became continuously worse, until the patient suffered intensely. Nystagmus was marked chiefly to left. The wound was reopened, the lateral sinus thoroughly explored, and the posterior and middle fossæ exposed and probed, but beyond the escape of cerebro spinal fluid nothing was found. Gauze drains were placed in the openings and also in the foramen ovale, and the wound left entirely open. The course taken by the case from this on was such as to make the prognosis extremely gloomy, but no light was thrown upon the cause until the end of the seventh week, when meningococcus was found in the spinal fluid, which had been several times examined previously. Flexner's serum, 15 c.c. was administered, with an immediate fall of temperature and steady convalescence thereafter, with discharge from hospital at the end of the third month. The facial paralysis has practically disappeared and the girl is quite well.

(10) Dr. Wishart: Slides from a case of carcinoma of the upper part of the cesophagus and pharynx, ulcerating into larynx. H. S., aged eighty-three, with symptoms of four months' duration, presented, on examination, a large mass in the right neck the size of an apple. Internally the right posterior faucial pillar was thrust forward into the pharynx towards the middle line, becoming more marked inferiorly, where the swelling folded the epiglottis upon itself. The right half of the larynx was pushed to the middle line, and only the

left cord was visible and that indistinctly. The part above the epiglottis was fungating, but no bleeding point was visible, and the parts generally were anæmic. The fungating part was removed with a snare for examination, and proved carcinomatous. This removal gave relief to the swallowing, but the patient died shortly from pneumonia.

Professor Mackenzie's report is as follows: "Glands behind larynx and trachea are markedly enlarged, and tissue at back of larynx and around œsophagus thickened. Tongue somewhat swollen and œdematous. On right of pharynx extending down into œsophagus is a large ulceration area which measures 4 cm. in length by $2\frac{1}{2}$ cm. in width, by 2 cm. in depth. On the side of the larynx this extends up to right aryteno-epiglottidean folds and extends through towards base of epiglottis, giving rise to a couple of small ulcers, the edges of which are of a dirty green colour. The right cord is markedly deformed lying beneath the swelling, left swollen and œdematous. No ulceration. Rest of larynx normal.

(11) Dr. Wishart: Large nasal polyp extending into nasopharynx. Patient, a lad of about fifteen years, presented himself on account of nasal stenosis of the left side. What appeared to be a simple mucous polyp presented itself on the anterior floor of the left fossa, rising further back into the middle meatus. Posterior a large, bluish white tumour lay on the soft palate, almost to its free margin, shutting off a view of all but the extreme right of the posterior nares. It moved freely with the lifting of the palate, and to palpation, and appeared soft. The report of the x-ray plate was not available. The growth appeared to be single, and attached within the nasal cavity. There had been no bleeding. There was no history of syphilis. The growth was probably not fibrous, but might be cystic, or myxomatous.

Discussion: Dr. Boyd agreed that it was a mucous polyp, could not consider it malignant. Thought it had its origin in the nose. Dr. Goldsmith thought it a polyp and that it got its peculiar appearance from its contact with air. Dr. Price-Brown would call it more than a polyp. He would put it among the nasal fibromata. Dr. McDonagh saw no reason why it should not be the ordinary form of mucous polyp, but he often sees myxo-fibromata growing from the tissue of the roof of the nasal cavity near the choanæ. Such are easily removed with a snare. If of the fibrous type they more often arise from the pharyngeal vault, and the bleeding at the time of removal is profuse. He has not seen growths

from the antrum project into the pharynx. Dr. Wishart in reply did not consider it a fibroma; and mentioned that a specific taint should not be forgotten in these cases.

TORONTO ACADEMY OF MEDICINE

At the open meeting of Toronto Academy of Medicine, held on December 5th, an opportunity was given to many Fellows to express publicly their sorrow at the tragic death of Dr. J. F. W. Ross. Four members, who had been closely associated with him, acted as spokesmen, and the close attention with which an unusually large meeting listened was an eloquent tribute to the sense of deep loss felt by the profession in general.

Dr. Temple delivered a short address on "Dr. Ross as a Surgeon." He traced, in detail, his career from the time of his graduation thirty-three years ago. Dr. Temple had been associated with him since the time of his appointment to the gynæcological staff of Toronto General Hospital, and could speak advisedly of his surgical character. His investigation of cases was painstaking; his diagnosis most accurate. As an operator he was quick and thorough. With his patients he was kind and gentle to a fault.

Dr. J. L. Davison said, in part, that Dr. Ross was a great lover of the rifle, the rod, and the gun. He thoroughly enjoyed primitive life and had the ability to "get close to nature" in her wildest and most silent moods. He was the life and leader of a camping-party. Dr. Ross united with his professional abilities an unusual business capacity—a unique combination. He was a keen surgeon and a straightforward man.

Dr. Allen Baines's theme was, "A Man and Friend." He spoke of many things—of his subject's energy and vitality from boyhood, his love for all things artistic—and his loyalty to friends. The late Dr. Hodder had said of Dr. Ross, Sr., "I like that man. He is so honest." And this was the upright son of an upright gentleman.

Dr. Marlow next read a carefully prepared paper on Dr. Ross's contributions to medical literature. He had contributed some seventy papers on surgery and gynæcology, and their perusal might well provide one with an adequate history of the progress of the subject during twenty years. The interesting fact was brought out that Dr. Ross was the first prominent surgeon on the American continent to attack the now obsolete operation of "Uterine Ventro-Fixation."

Dr. Powell's paper was to have followed that of Dr. Marlow but, owing to the lateness of the hour, it was not read.

Following the above papers, Dr. Thomas McCrae, of Johns Hopkins University, Baltimore, addressed the Academy briefly. He took as his subject, "The Treatment of Circulatory Diseases following Infectious Fevers." He first excluded rheumatism and syphilis from his remarks because they belonged to a special category of their own. They were frequently complicated by endocarditis and arteritis. He desired to deal with the condition frequently called a *fever heart*, but must enter objections to a faulty nomenclature. The heart, indeed, was frequently not affected in such a state, but the heart centre. The speaker deprecated the too common indiscriminate drugging of these cases. Digitalis, he said, was in many cases absolutely dangerous, while in others, such as fibrillation of the auricle, it was essential. Careful, differential diagnosis should come before everything. The point of attack should be first ascertained. Then treatment should be rational. Digitalis should only be used where it was clearly indicated. Strychnine might be valuable in cases where the blood-pressure was low or after typhoid. Speaking generally, the most valuable of nature's aids were rest and sleep. Every effort should be made to attain these ends. Morphia, for such a purpose, was often invaluable.

CANADIAN PUBLIC HEALTH ASSOCIATION

At the first meeting of the Canadian Public Health Association, which was held in Montreal, December 14th, 15th, and 16th, the election of officers resulted in the following appointments: President, Dr. C. A. Hodgetts, Ottawa; vice-presidents, Dr. M. M. Seymour, Regina; Dr. J. W. S. McCullough, Toronto, and Dr. E. B. Fisher, Fredericton; general secretary, Major Lorne Drum, M.D., Perm. Army Corps, Ottawa; treasurer, G. D. Porter, Toronto.

Executive council—Dr. P. H. Bryce, Ottawa; Dr. F. Montezambert, Ottawa; Dr. J. D. Page, Quebec; Dr. G. P. Lachapelle, Montreal; Dr. C. J. O. Hastings, Toronto; J. A. Murray, M. Can. Soc. C.E.; Dr. Chas. Douglas, Winnipeg; P. B. Fuston, M.R.; Dr. McKay, Saskatoon; Geo. T. Clark, Asso. M. Can. Soc. C.E., Saskatoon; Dr. C. I. Fagan, Victoria, B.C.; Dr. G. E. Dunnean, Vernon, B.C.; Col. Carleton Jones, M.R.C.S., Dept. Militia and Defence, Ottawa; Dr. Smith Walker, Nova Scotia; Dr. E. O. Stevens, Moncton, N.B.; Dr. G. G. Melvin, St. John, N.B.; Dr. H. G. Johnson, P.E. Island; Dr. Jas. Warburton, P.E. Island; T. H. Whitelaw, Calgary.